Analyst Day 2026

November 12, 2026







moderna

© 2026 Moderna, Inc. All rights reserved.

Forward-looking statement

This presentation contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, as amended, including statements regarding: the potential of Moderna's mRNA platform; Moderna's ability to execute on its next phase of growth and its mid-term financial strategy; Moderna's use of AI and automation to accelerate innovation and increase productivity; Moderna's 2026 financial framework, including 15-25% revenue growth, gross margin expansion, cost reductions, and liquidity; Moderna's expected growth drivers in 2027 and beyond; Moderna's ability to improve infectious disease vaccine franchise profitability; Moderna's investment strategy, capital allocation and portfolio priorities; continued cost discipline and efficiency; the potential of intismeran, including as the standard of care in adjuvant melanoma and its curative potential; the potential commercial launch of intismeran, subject to regulatory approval; Moderna's commercial and manufacturing readiness for intismeran; Moderna's ability to scale manufacturing capacity efficiently; expectations regarding the size of the eligible U.S. market for intismeran; the potential of intismeran in additional tumor types and across settings; mRNA-4194's potential in Lynch syndrome; the potential of Moderna's broader oncology portfolio; pending and anticipated regulatory filings and potential approvals, including timing of approvals; Moderna's ability to reduce the time from strain selection to vaccine supply; the size of the respiratory vaccination market and future demand; the RFS benefit of intismeran plus pembrolizumab emerging over time; and anticipated progress and milestones for Moderna's pipeline programs. In some cases, forward-looking statements can be identified by terminology such as "will," "may," "should," "could," "expects," "intends," "plans," "aims," "anticipates," "believes," "estimates," "predicts," "potential," "continue," or the negative of these terms or other comparable terminology, although not all forward-looking statements contain these words. The forward-looking statements in this presentation are neither promises nor guarantees, and you should not place undue reliance on these forward-looking statements because they involve known and unknown risks, uncertainties, and other factors, many of which are beyond Moderna's control and which could cause actual results to differ materially from those expressed or implied by these forward-looking statements. These risks, uncertainties, and other factors include, among others, those risks and uncertainties described under the heading "Risk Factors" in Moderna's Annual Report on Form 10-K for the fiscal year ended December 31, 2025, filed with the U.S. Securities and Exchange Commission (SEC), and in subsequent filings made by Moderna with the SEC, which are available on the SEC's website at www.sec.gov. Except as required by law, Moderna disclaims any intention or responsibility for updating or revising any forward-looking statements contained in this presentation in the event of new information, future developments or otherwise. These forward-looking statements are based on Moderna's current expectations and speak only as of the date of this presentation.

Financial figures in this presentation as of, and for the quarterly periods ended, September 30, 2026, and September 30, 2025, are unaudited.

© 2026 Moderna, Inc. All rights reserved.

Introduction

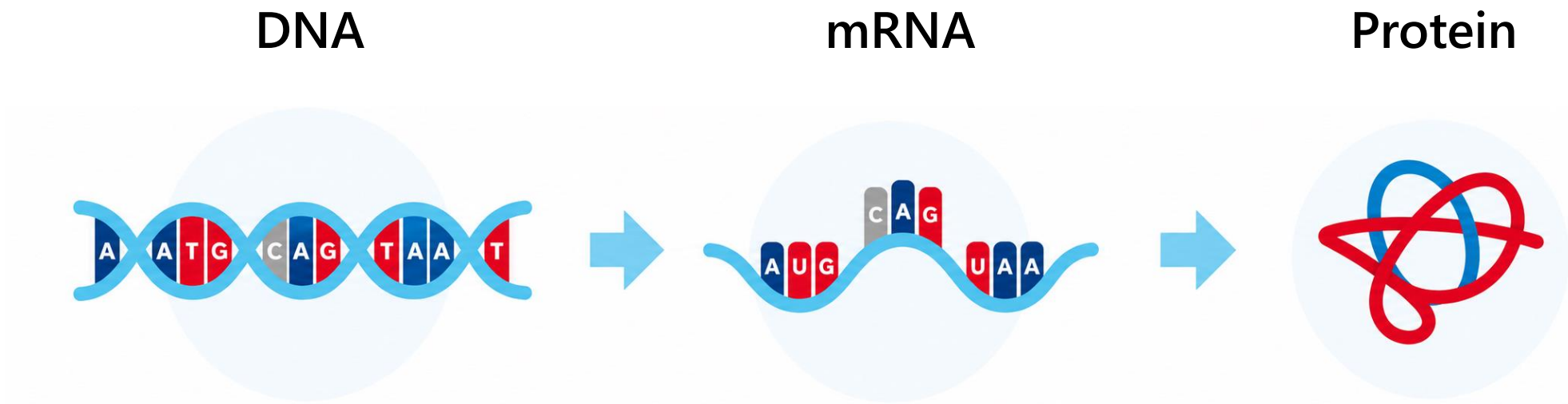
Stéphane Bancel

Chief Executive Officer

moderna

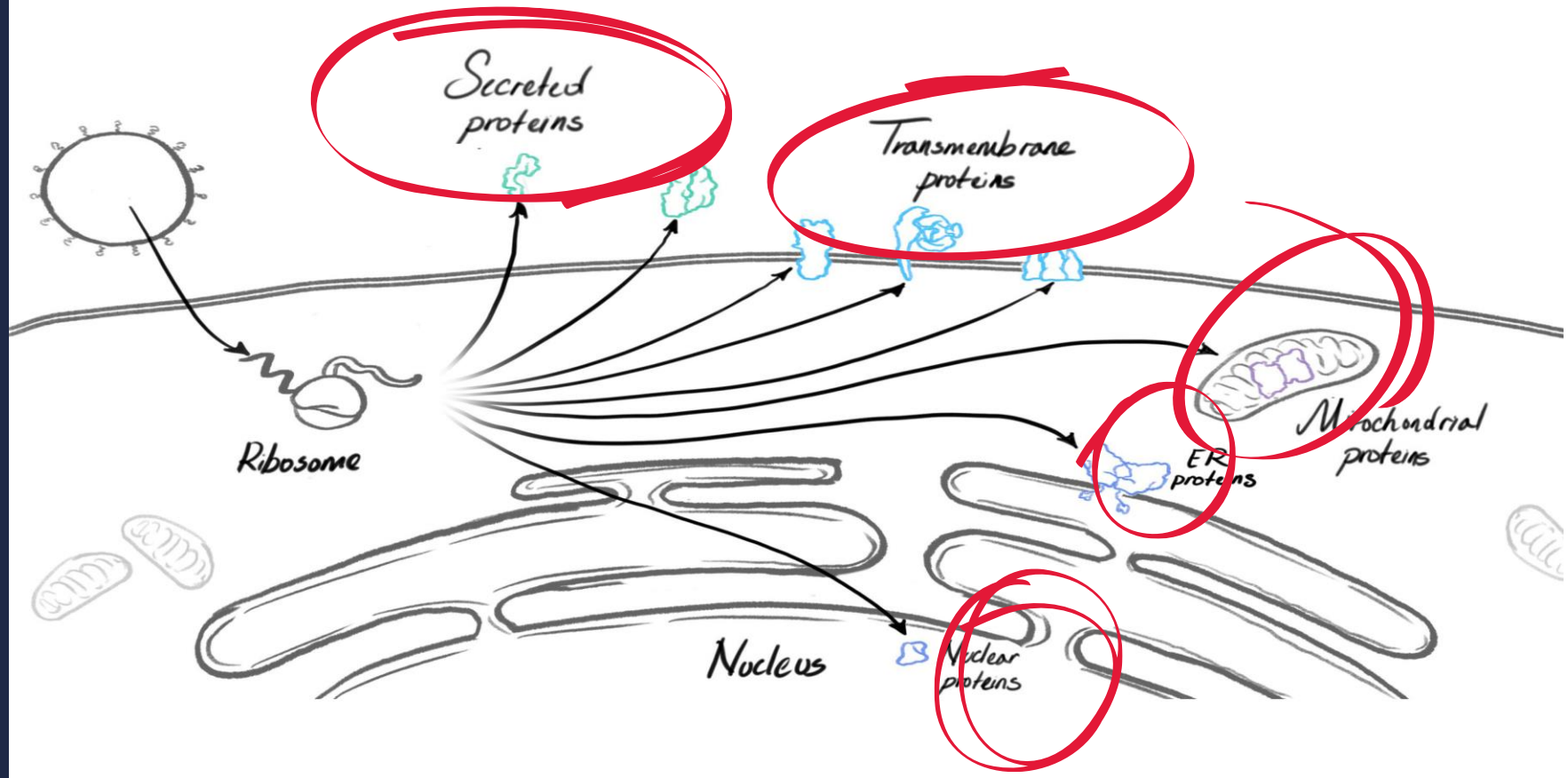
© 2026 Moderna, Inc. All rights reserved.

mRNA is nature's information molecule, carrying instructions to make proteins



© 2026 Moderna, Inc. All rights reserved.

Moderna was founded on the idea to use mRNA to create new medicines for patients



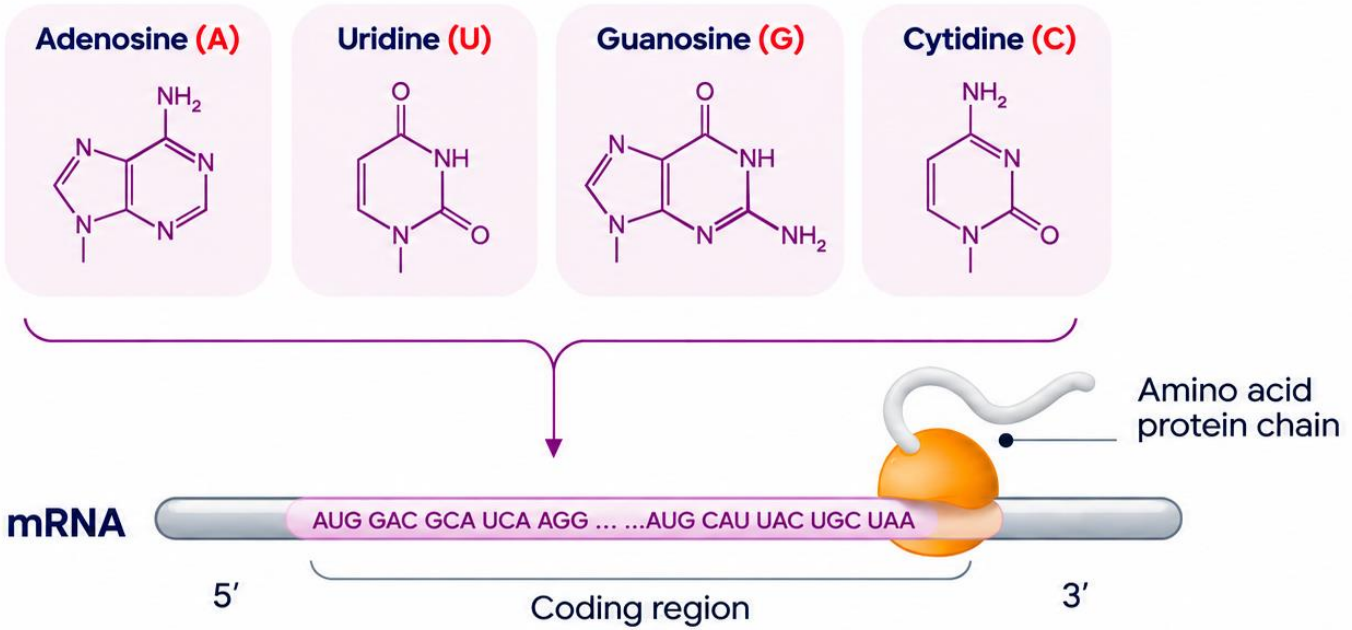
© 2026 Moderna, Inc. All rights reserved.

Like computers use binary code, biology uses mRNA's four-letter code to instruct cells

Computers use
a binary system



Life uses a
quaternary system



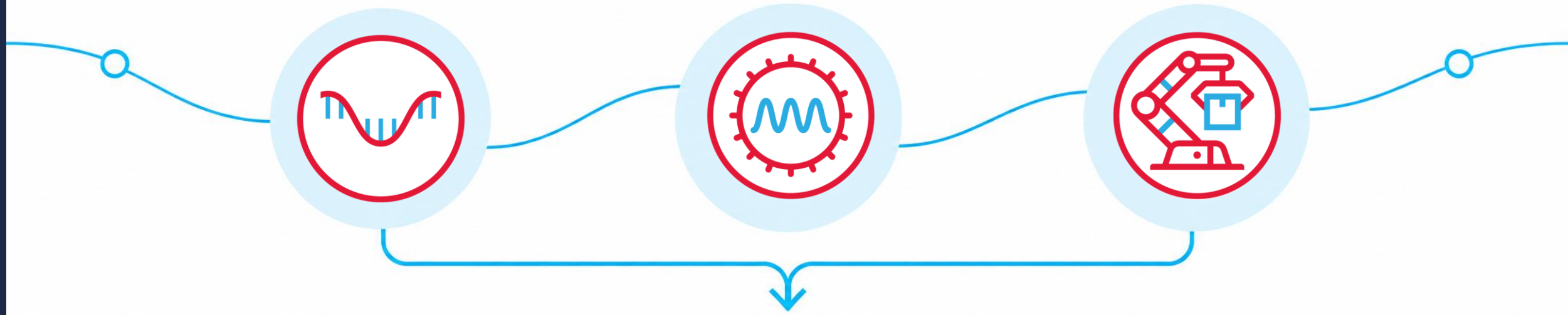
© 2026 Moderna, Inc. All rights reserved.

Because mRNA is an information molecule, we had the unique opportunity to build a platform company

mRNA science
Design and engineer mRNA instructions

Delivery science
Deliver mRNA into cells

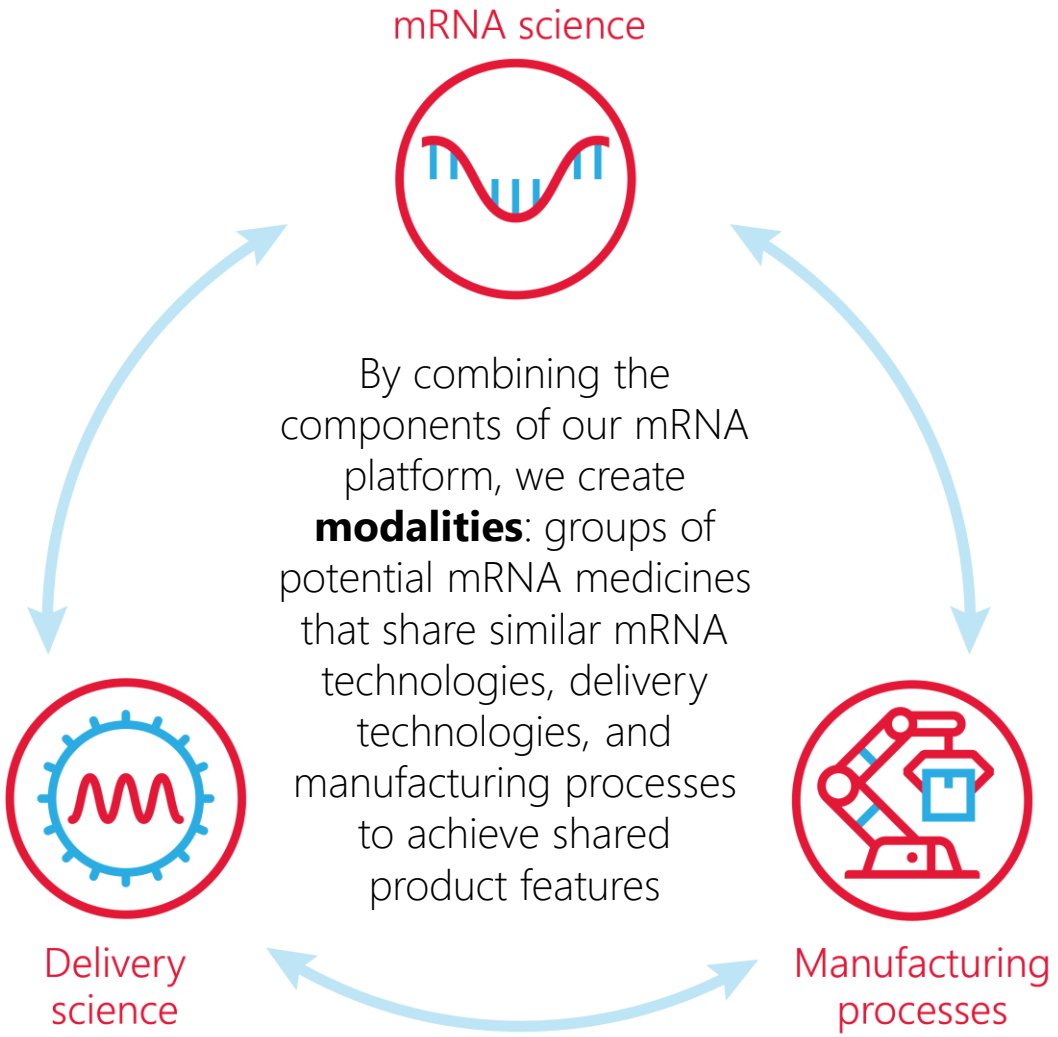
Manufacturing
Produce mRNA medicines at scale



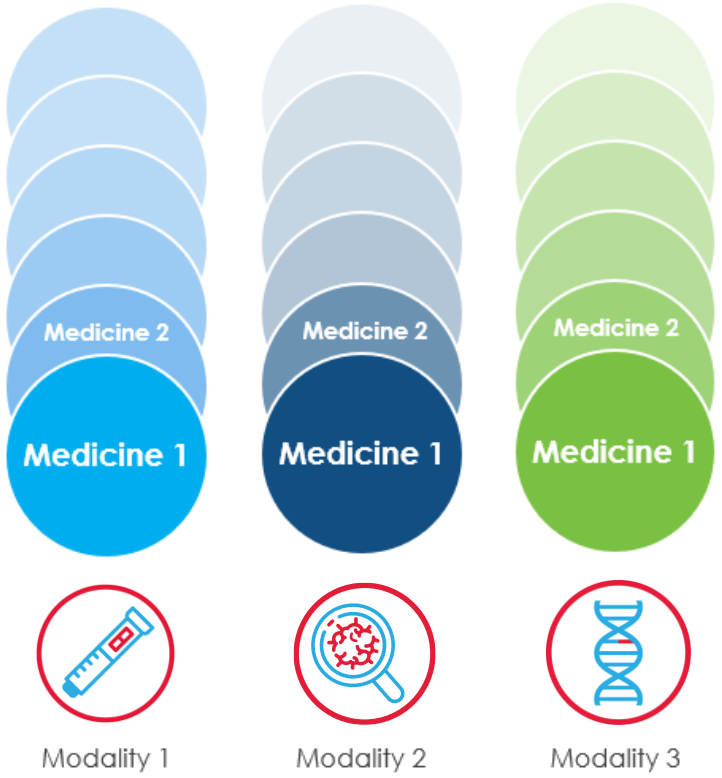
Moderna's mRNA platform

© 2026 Moderna, Inc. All rights reserved.

Our platform enables multiple modalities, each with the potential to create families of medicines

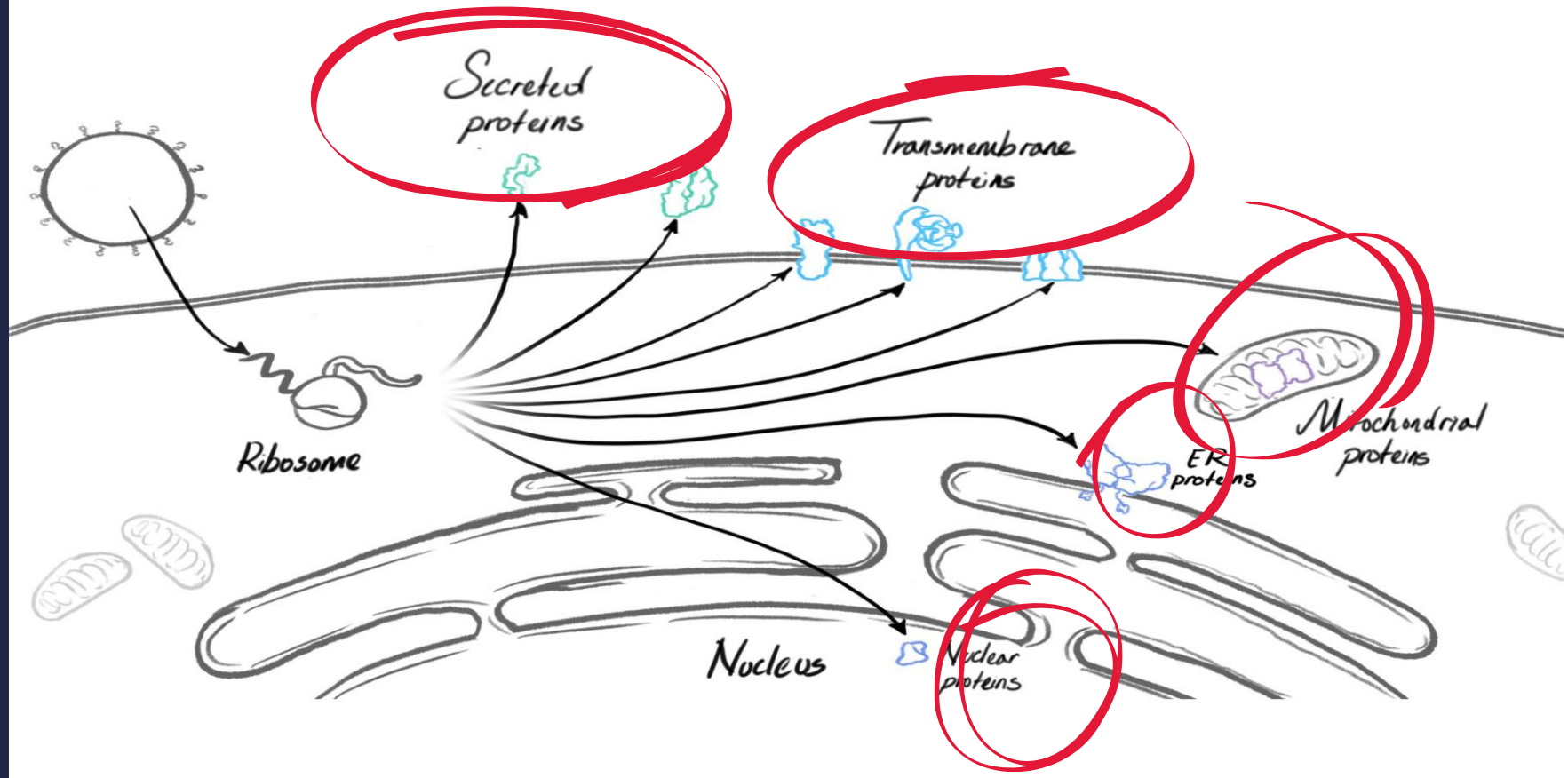


Proof-of-concept data from sentinel programs de-risk modalities and can accelerate development plans



© 2026 Moderna, Inc. All rights reserved.

The unique properties of mRNA create important advantages for drug development



1 Large opportunity to address unmet need

2 Higher efficiency in R&D

3 Rapid development

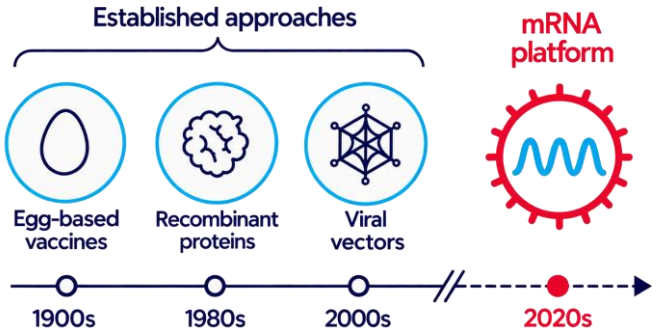
4 Greater capital efficiency

© 2026 Moderna, Inc. All rights reserved.

We are focused on areas where mRNA can deliver transformative patient benefit

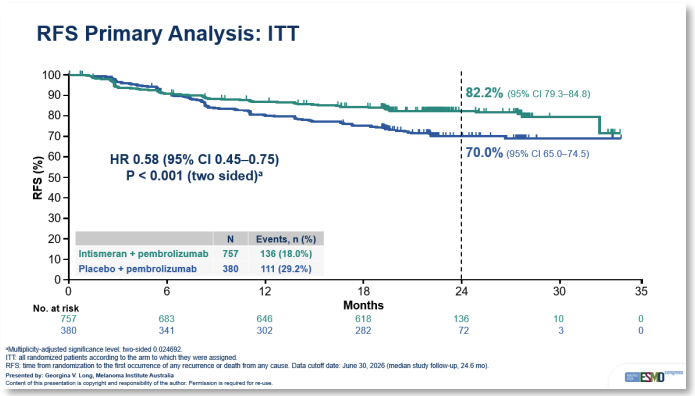
Infectious disease vaccines

First fundamentally new vaccine technology platform in decades



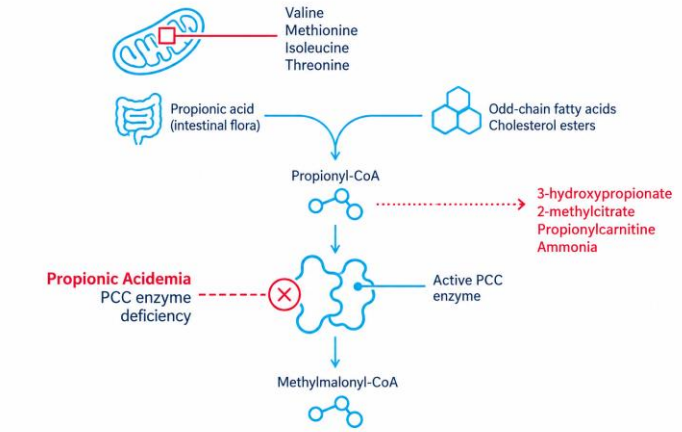
Individualized cancer treatments

Potential to move beyond the PD1 efficacy ceiling



Rare genetic liver diseases

Ability to reach intracellular protein targets other technologies cannot



© 2026 Moderna, Inc. All rights reserved.

Our differentiated vaccines and investigational medicines have the potential to create durable franchises

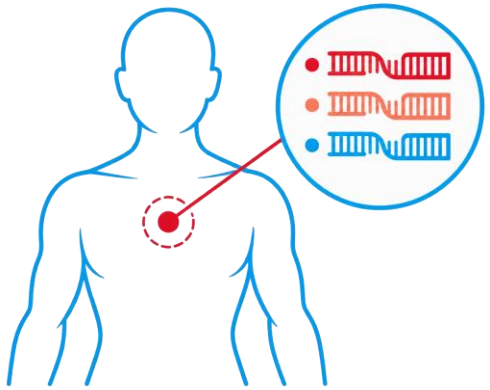
Infectious disease vaccines

Repeatable platform across many pathogens



Individualized cancer treatments

Individualized by design; proprietary algorithm potentially limits generics



Rare genetic liver diseases

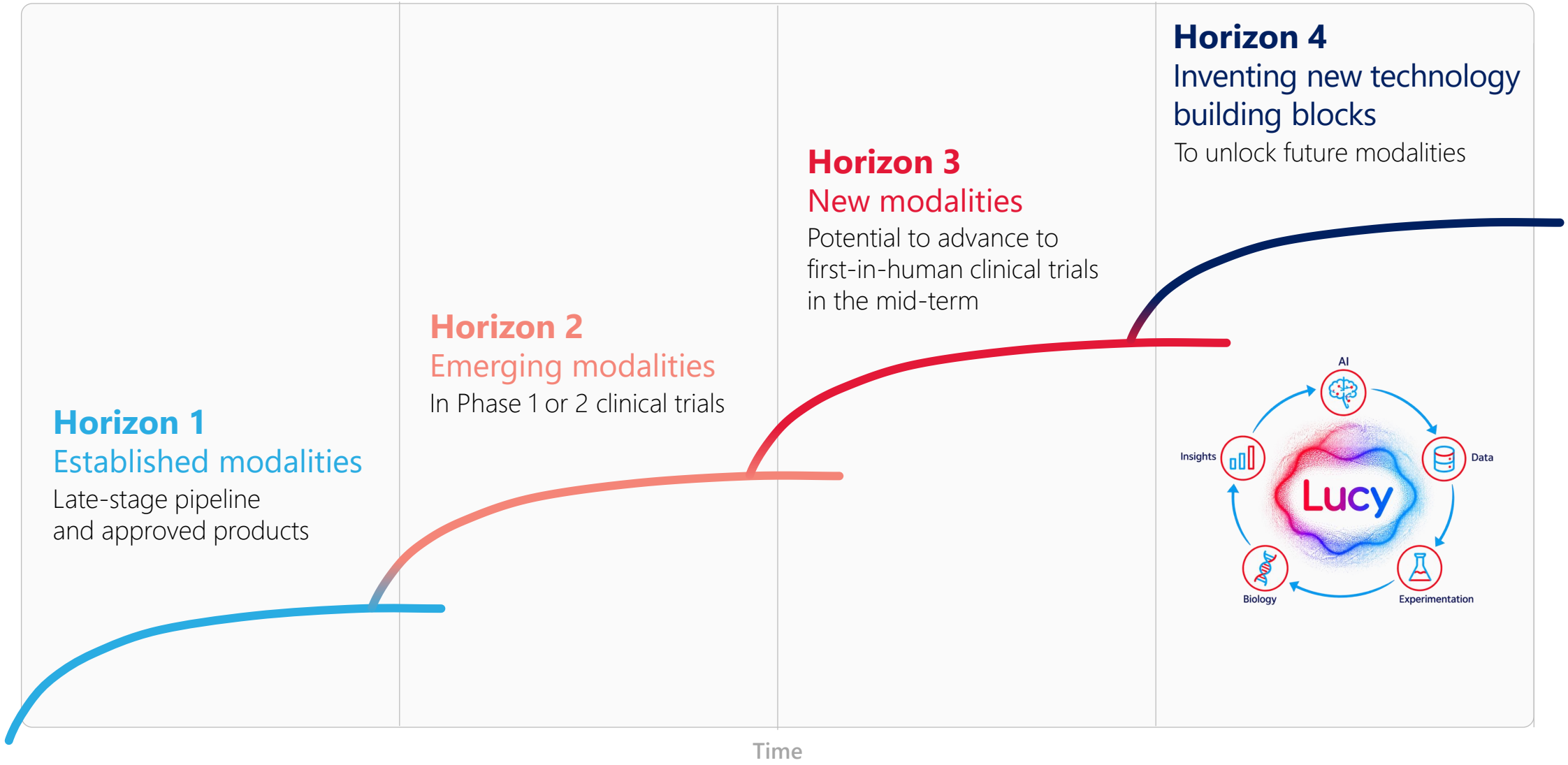
High unmet need; difficult to run clinical studies after a product is approved



© 2026 Moderna, Inc. All rights reserved.

moderna

We invest across multiple horizons to drive near-term growth and long-term innovation

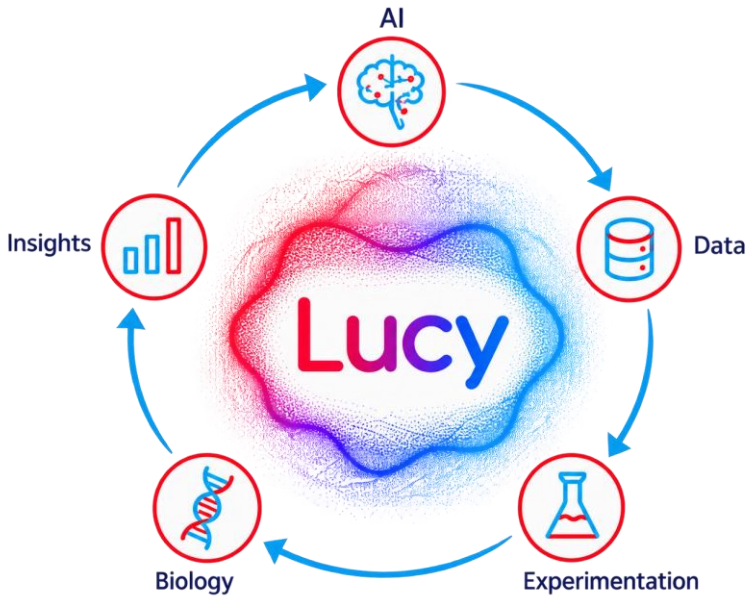


© 2026 Moderna, Inc. All rights reserved.

AI is accelerating innovation and transforming how we work across Moderna

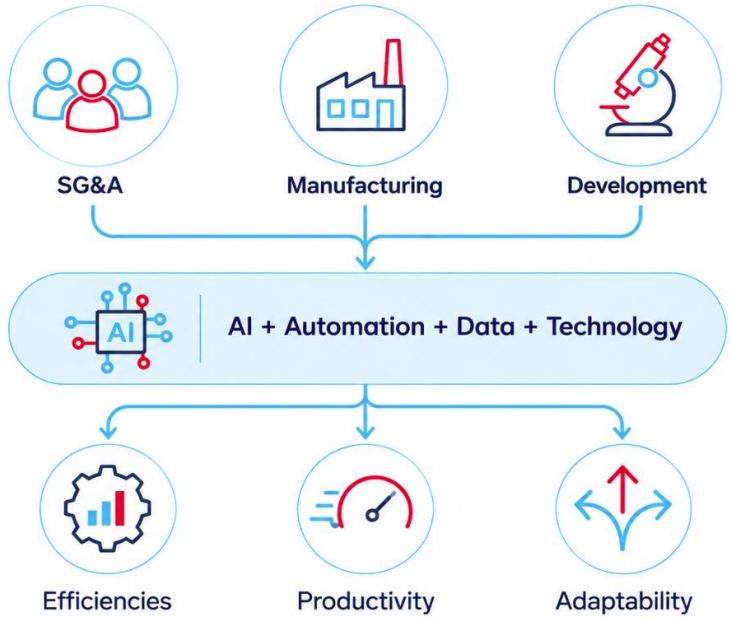
Lucy

Connecting AI, automation, experimentation, and data into a continuously improving learning system



AI-enabled ways of working

AI, automation, and other technology to increase productivity, speed, and adaptability across SG&A, manufacturing, and development



© 2026 Moderna, Inc. All rights reserved.

moderna

Agenda

Introduction	**Stéphane Bancel** Chief Executive Officer
Business Strategy	**Stephen Hoge, M.D.** President
Manufacturing	**Juan Andres** Chief Operating Officer
Financials	**Jamey Mock** Chief Financial Officer
Business Q&A	
Coffee Break	
Infectious Disease vaccines	
Real world evidence studies	**Rituparna Das, M.D. Ph.D.** Head, Clinical Development, Infectious Diseases, Rare Diseases, and Therapeutics
Annual Strain Update	**William Schief, Ph.D.** Vice President, Protein design, Infectious Disease Research
Oncology therapeutics	**David Berman, M.D. Ph.D.** Chief Development Officer
Conclusion	**Stéphane Bancel** Chief Executive Officer
Clinical Q&A	
Marlborough manufacturing site tour	

© 2026 Moderna, Inc. All rights reserved.

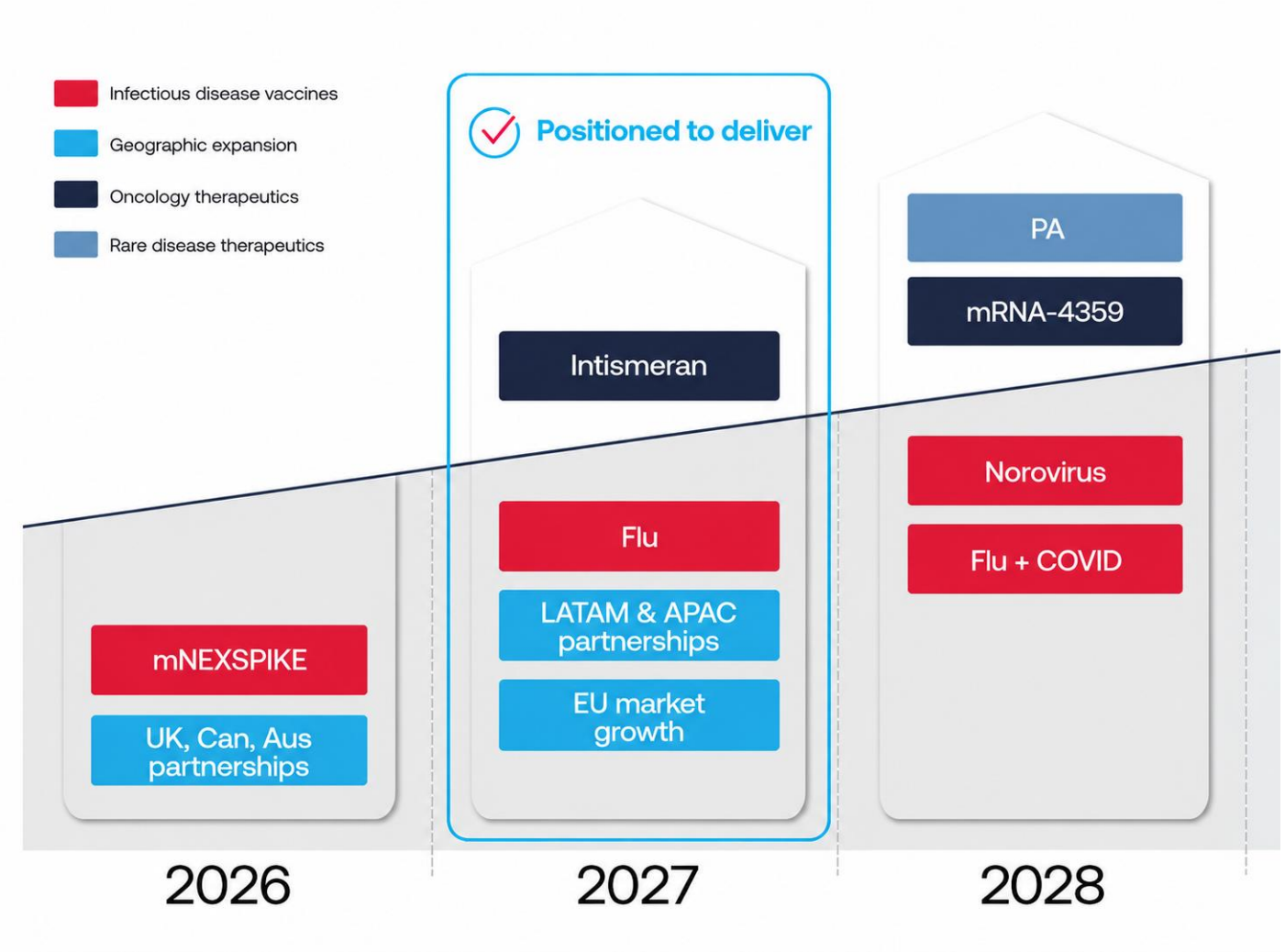
Business Strategy

Stephen Hoge, M.D.

President

© 2026 Moderna, Inc. All rights reserved.

Executing on our three-year strategy; positioned for growth in 2027



Key developments supporting growth in 2027

mFLUSIVA approved by the U.S. FDA and Health Canada

mNEXSPIKE and mCOMBRIAX/mCOFLU approved by EMA and Health Canada

Mexico and Taiwan partnership execution

Intismeran in adjuvant melanoma: Positive Phase 3 data in adjuvant melanoma study presented at ESMO Presidential Symposium

© 2026 Moderna, Inc. All rights reserved.

2026 revenue outlook increased

mFLUSIVA 2027

EU product approvals

LATAM and APAC partnerships

Intismeran

2026 revenue drivers

2026 revenue growth of 15-25% expected to exceed original framework of up to 10%

Strategic partnerships

Multi-year partnerships providing recurring revenue

UK | Canada | Australia

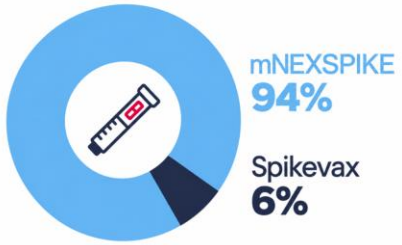
Partnership features

- Long-term agreements
- Supports national security & defense
- R&D investment
- Onshore manufacturing

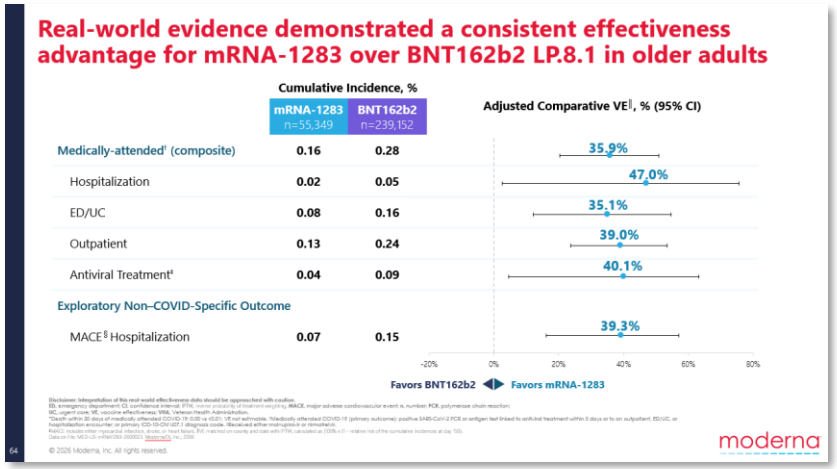
Majority of sales outside the U.S. will be driven by our strategic partnerships

mNEXSPIKE

mNEXSPIKE's share of Moderna retail sales[1]



Real-world evidence



1. Based on information licensed from IQVIA: NPA Rapid for the period w/e 9/4/2026 to 10/30/2026 reflecting estimates of real-world activity. All rights reserved

moderna

2026 revenue outlook increased

mFLUSIVA 2027

EU product approvals

LATAM and APAC partnerships

Intismeran

2027 growth driver

mFLUSIVA 2027 launch

Limited 2026 launch strengthens 2027/28 commercial position

With August approval occurring after the 2026/27 contracting cycle, the limited launch is creating value for the next full season

AAFP recommendation as an enhanced influenza vaccine

110K+ shots-in-arms[1] and early market experience

Two mRNA-1010 VE studies published in *Journal of Medical Economics*[2] and *Vaccines*[3]



1. Based on information licensed from IQVIA: NPA Rapid for the period w/e 8/28/2026 to 10/30/2026 reflecting estimates of real-world activity. All rights reserved
2. https://doi.org/10.1080/13696998.2026.2706361
3. https://doi.org/10.3390/vaccines14090750
4. Internal data sets and Public Vaccine Access

moderna

2026 revenue outlook increased

mFLUSIVA 2027

EU product approvals

LATAM and APAC partnerships

Intismeran

2027 growth driver

Approved respiratory portfolio in Europe

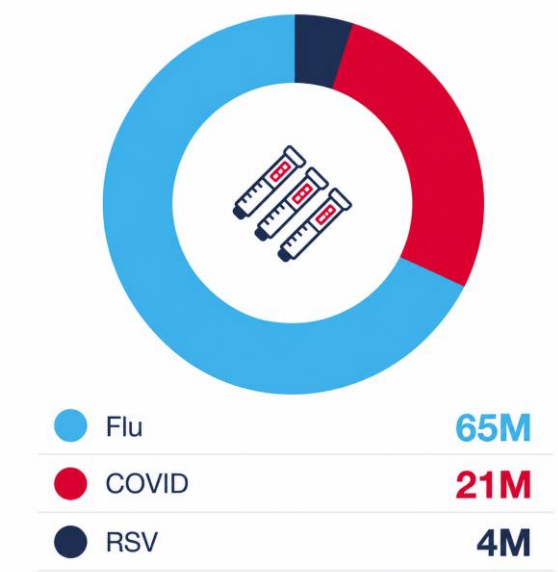
Company positioned to capture market share as competitor contract expires

Four approved products in the EU

- spikevax™ COVID-19 Vaccine, mRNA
- mNEXSPIKE® COVID-19 Vaccine, mRNA
- mRESVIA® (Respiratory Syncytial Virus Vaccine)
- mCOMBRIAX™ Influenza and COVID-19, mRNA Vaccine

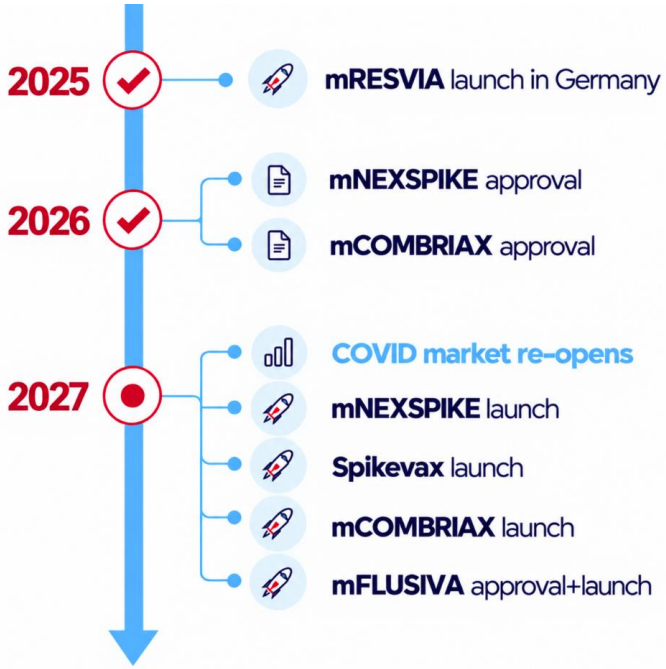
Estimated 2027 TAM

(millions of doses)



Sources: ECDC, IQVIA MIDAS, internal analysis
Europe includes EU, Switzerland, Norway, Iceland

Key milestone timeline



2026 revenue outlook increased

mFLUSIVA 2027

EU product approvals

LATAM and APAC partnerships

Intismeran

2027 growth driver

Developing long-term LATAM and APAC partnerships

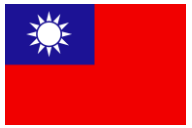


Mexico

Five-year agreement for COVID vaccines signed in September 2026 with local manufacturer

Meaningful long-term volume commitment, with annual minimum thresholds

Execution underway: Initial 4M doses shipped in September 2026



Taiwan

Multi-year tender for COVID vaccines awarded in December 2025

Execution underway: Initial 1M doses shipped in September 2026

Exploring similar multi-year partnerships globally

moderna

2026 revenue outlook increased

mFLUSIVA 2027

EU product approvals

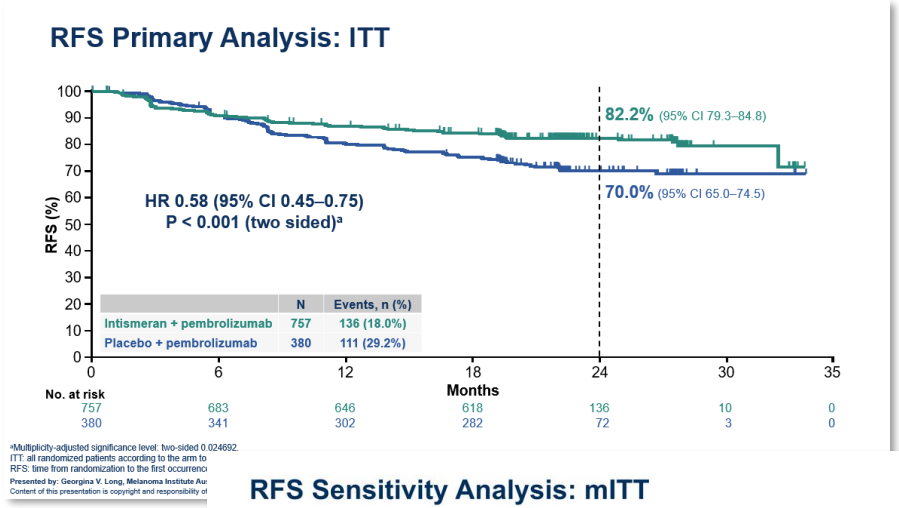
LATAM and APAC partnerships

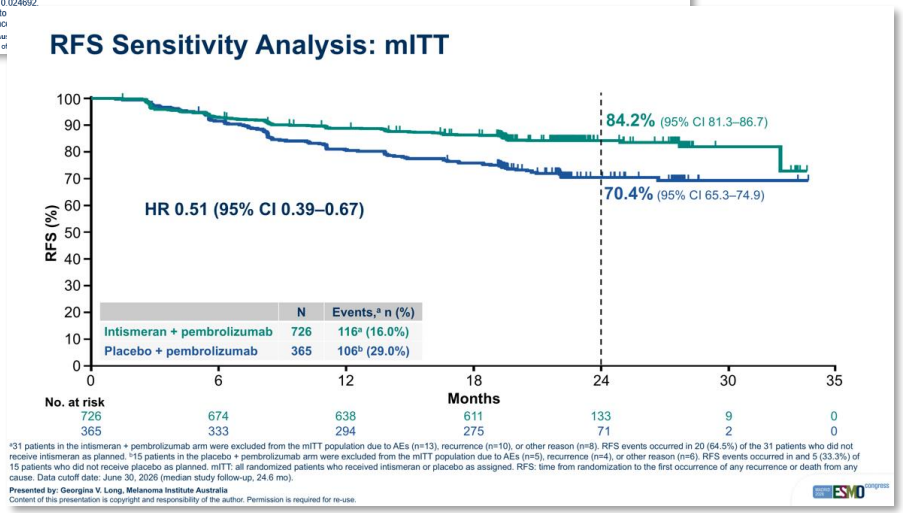
Intismeran

2027 growth driver

Intismeran in adjuvant melanoma

Phase 3 clinical study reported positive results





Establishing INT as the standard of care in adjuvant melanoma

Meaningful and durable benefit
Phase 3 results show a 42% reduction in the risk of recurrence or death with intismeran + KEYTRUDA® vs. KEYTRUDA alone

Potentially curative
Opportunity to change the trajectory for patients with high-risk melanoma

Safety
Intismeran+KEYTRUDA has a manageable safety profile without potentiation of immune-related adverse events

2026 revenue outlook increased

mFLUSIVA 2027

EU product approvals

LATAM and APAC partnerships

Intismeran

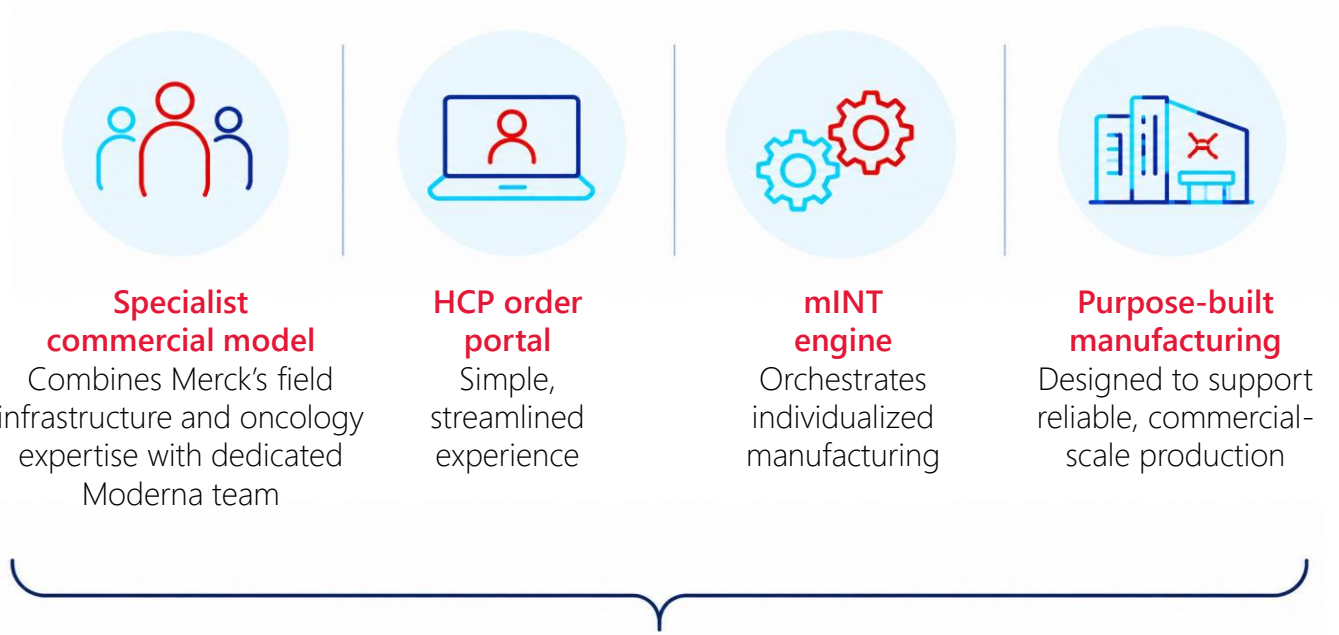
2027 growth driver

Intismeran: launch-ready infrastructure

The specialist capabilities and integrated ecosystem are in place to launch at scale

Commercial and operational ecosystem

A high-science specialist commercial model and integrated end-to-end service model



Specialist commercial model
Combines Merck's field infrastructure and oncology expertise with dedicated Moderna team

HCP order portal
Simple, streamlined experience

mINT engine
Orchestrates individualized manufacturing

Purpose-built manufacturing
Designed to support reliable, commercial-scale production

Integrated capabilities designed to enable a reliable, scalable launch on Day 1

Commercial partnership



Moderna and Merck co-promote in the U.S.



Merck promotes outside of the U.S.

moderna

2026 revenue outlook increased

mFLUSIVA 2027

EU product approvals

LATAM and APAC partnerships

Intismeran

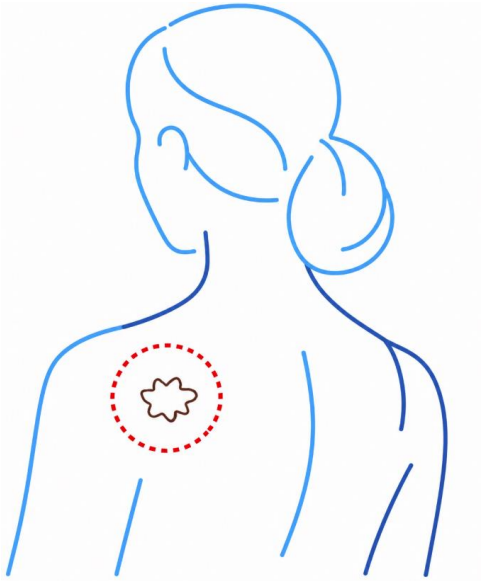
2027 growth driver

Intismeran: Eligible U.S. market

A meaningful U.S. eligible population with high recurrence risk and treatment gaps

~22,000

Patients eligible annually in adjuvant melanoma*



High unmet need

~1 in 10
recur or die within a year of adjuvant therapy[1]

~50%+
of first recurrences involve distant metastases[2]

~35-45%
of eligible Stage II patients receive no adjuvant therapy post-surgery[3]

*Phase 3 INTerpath-001 eligible population resected cutaneous melanoma Stage IIB-IV

Sources: 1. Eggermont et al., KEYNOTE-054. [2] Luke et al. 2025, KEYNOTE-716; 3 Internal market research.

moderna

Balancing near-term growth with long-term R&D innovation

2027-2030: Driving financial sustainability while investing in the next generation of growth

Infectious disease vaccines

Self-funded growth

Disciplined reinvestment of commercial cash flows in infectious disease vaccine pipeline

Opportunities

Lyme disease
Potential Phase 2/3 trial

EBV (mRNA-1189)
Potential Phase 3 trial

Other potential future investments
Potential Phase 2/3 trials

© 2026 Moderna, Inc. All rights reserved.

2027-2030: Driving financial sustainability while investing in the next generation of growth

Infectious disease vaccines	Self-funded growth
Intismeran	Balance sheet-funded growth

Accelerated investment to drive near-term revenue growth and long-term profitability

Investment opportunities

Intismeran: commercialization
commercial, medical, manufacturing

Intismeran: new indications
Clinical development

© 2026 Moderna, Inc. All rights reserved.

2027-2030: Driving financial sustainability while investing in the next generation of growth

Infectious disease vaccines	Self-funded growth
Intismeran	Balance sheet-funded growth
mRED	Balance sheet-funded innovation

Disciplined, multi-year investment in cutting-edge R&D

Investment opportunities

Cancer Antigen Therapies
Clinical development across trials

T cell engagers
Clinical development and research

Future modalities
Research & development

© 2026 Moderna, Inc. All rights reserved.

Manufacturing

Juan Andres

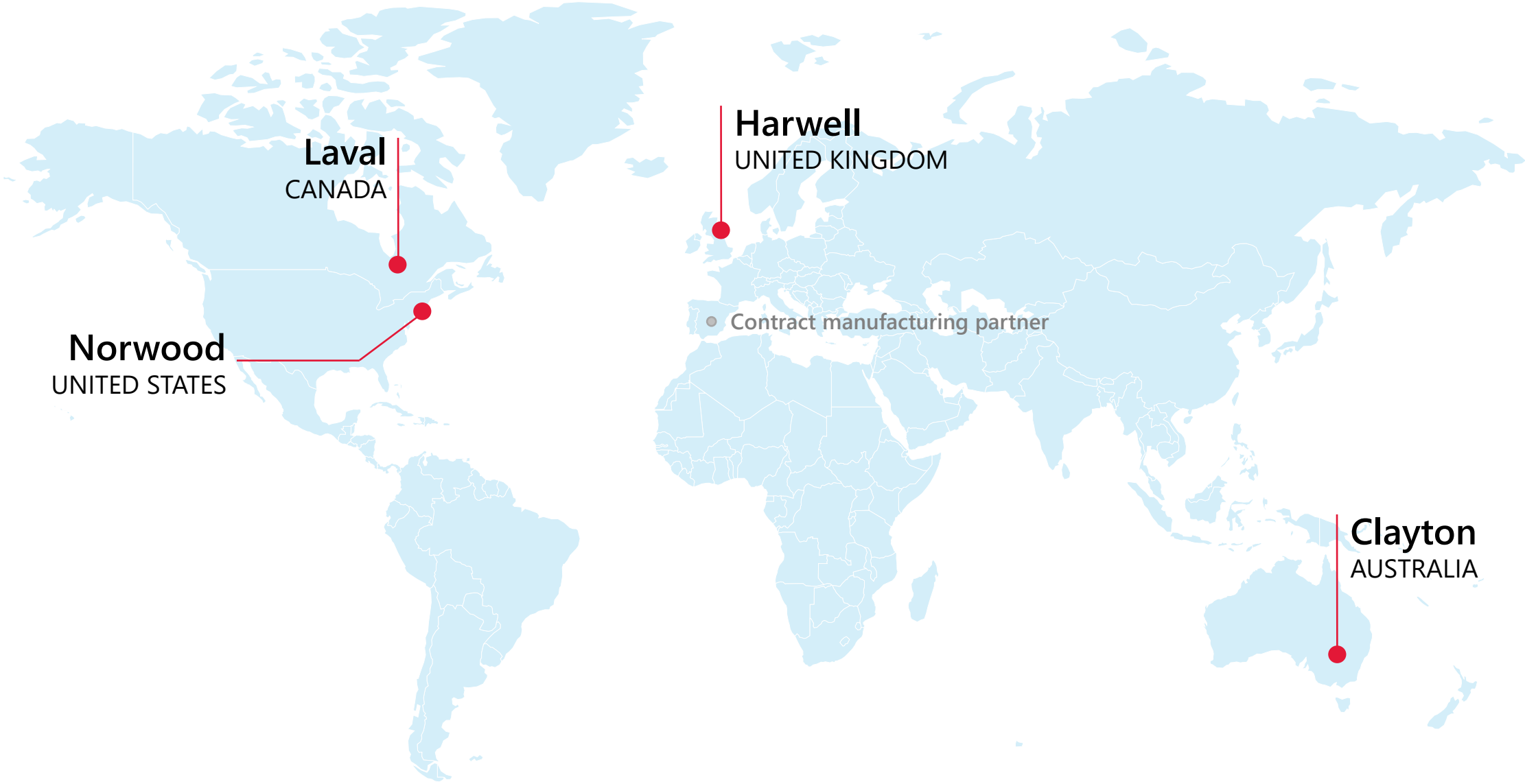
Chief Operating Officer

moderna

© 2026 Moderna, Inc. All rights reserved.

Our global infectious disease vaccines manufacturing network

Sites across North America, Europe and Australia supporting global supply



© 2026 Moderna, Inc. All rights reserved.

Our global infectious disease vaccines manufacturing network

Sites across North America, Europe and Australia supporting global supply



Strategic Partnerships

Moderna-built and managed facilities under long-term agreements support domestic supply and geographic diversification

Operational Excellence

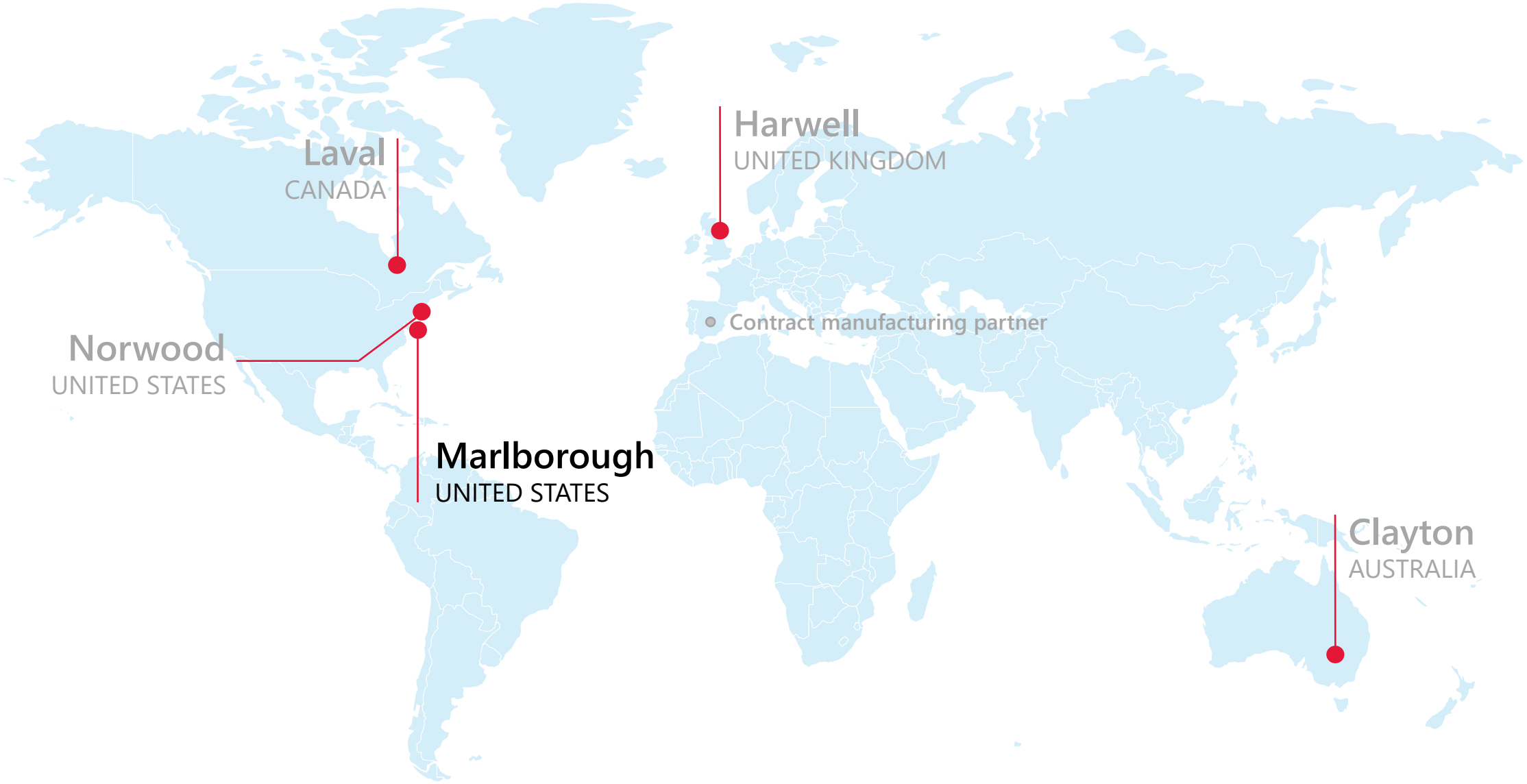
Focused on margin discipline, utilization, and productivity to support long-term cost optimization

Flexibility

Platform speed and agility enable differentiated products

© 2026 Moderna, Inc. All rights reserved.

Marlborough: Purpose-built for intismeran



© 2026 Moderna, Inc. All rights reserved.

Marlborough: Purpose-built for intismeran



Marlborough
UNITED STATES

Facility Design

- Built for **end-to-end operations** with **speed, scalability, and flexibility**
- Designed with **expandable capacity**

Innovation & Efficiency

- Incorporates **digital automation, robotics, and smart skid design**
- Enables **lower production costs** and greater operational efficiency

Readiness & Timeline

- Began **clinical batch supply in Sept 2025**
- On track for potential **commercial launch**

© 2026 Moderna, Inc. All rights reserved.

In 2027, Marlborough will be the global supply site for intismeran

Site became **GMP-ready** in Aug 2025 and began supplying clinical study material

Marlborough has **latest generation manufacturing skids** and lean end-to-end workflow[1]

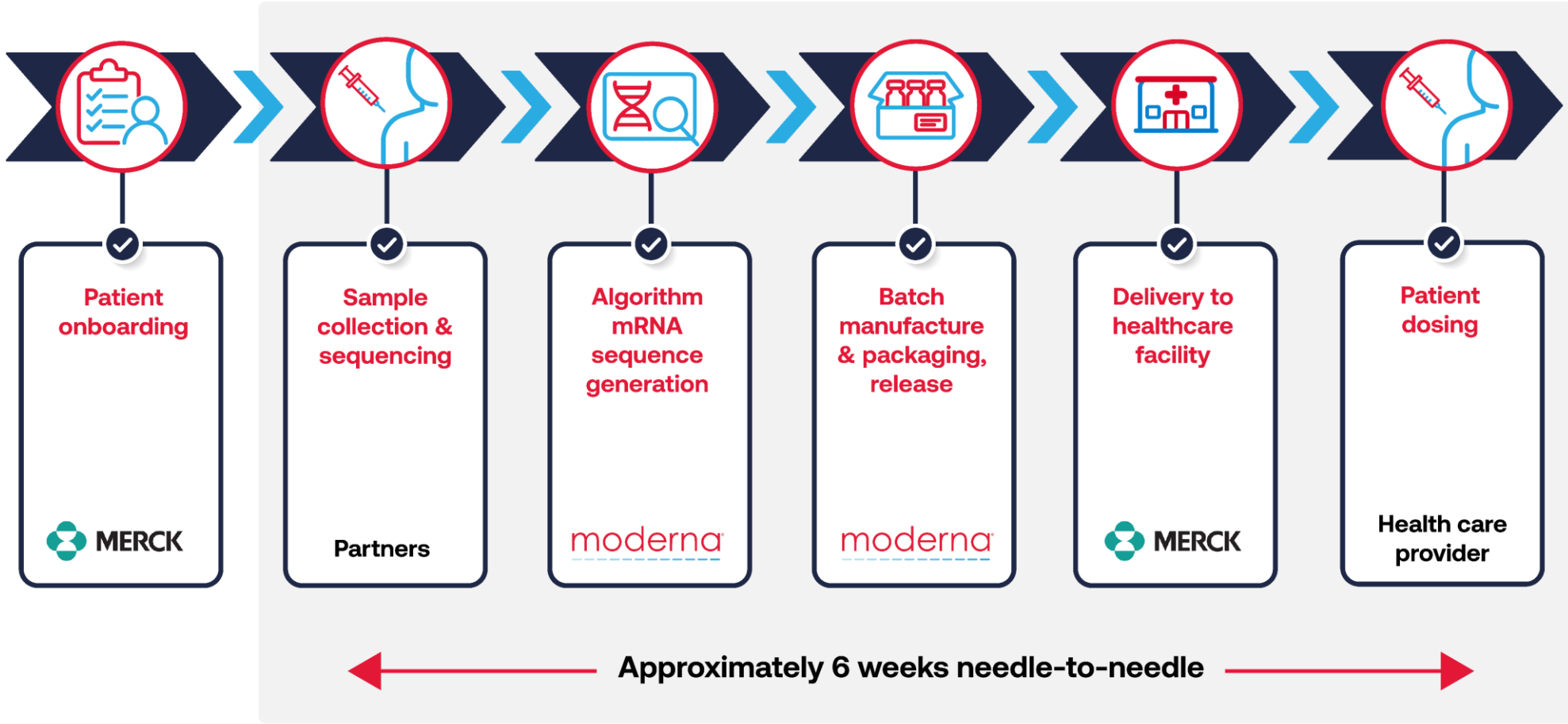
Site design allows **phased addition of capacity,** supplying up to tens of thousands of patients per year



[1] Continued investment in next-gen technologies to further increase productivity and capacity

© 2026 Moderna, Inc. All rights reserved.

Bringing intismeran to each patient is a product of speed, precision, and collaboration



© 2026 Moderna, Inc. All rights reserved.
moderna

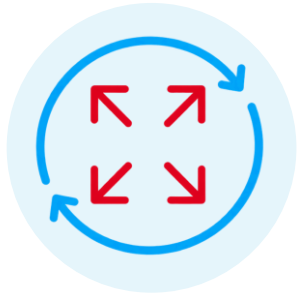
3 structural levers strengthen our ability to scale efficiently



Compact, flexible equipment
New technologies with material efficiencies enable us to use every square foot within a manufacturing suite



Automation
Utilization of robotics and agentic operations drives speed and productivity



Disciplined capacity expansion
Fixed cost absorption improves as demand fills installed capacity; expansions are paced

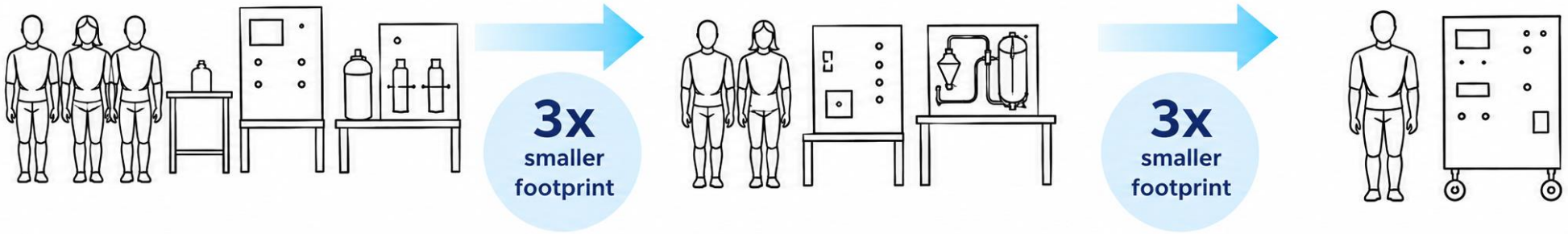
© 2026 Moderna, Inc. All rights reserved.

Smaller process footprints enable greater intismeran manufacturing capacity

Process Generation 1
Used for **clinical** manufacturing

Process Generation 2
Transition to **commercial**

Process Generation 3
Prototype design



Site	Norwood 2019	Marlborough 2026	Marlborough
Supply	Clinical	Clinical & commercial	Clinical & commercial
Equip.	Decommission Dec 2026	Semi-automated skids	Fully automated skids
Cost trajectory	**Baseline**	**~50% reduction** from baseline	**~50% reduction** from PG2

© 2026 Moderna, Inc. All rights reserved.

Automation-driven productivity offsets demand growth and maintains COGS discipline



Automation
Fully digitized batch records and automated material handling and cleaning through robotics, reducing manual interventions, and improving operational efficiency



Predictive Analytics
Enabling insights, task coordination, and KPI tracking for continuous learning



Agentic AI
Using AI to perform scheduling, augment technical support, and reduce review requirements

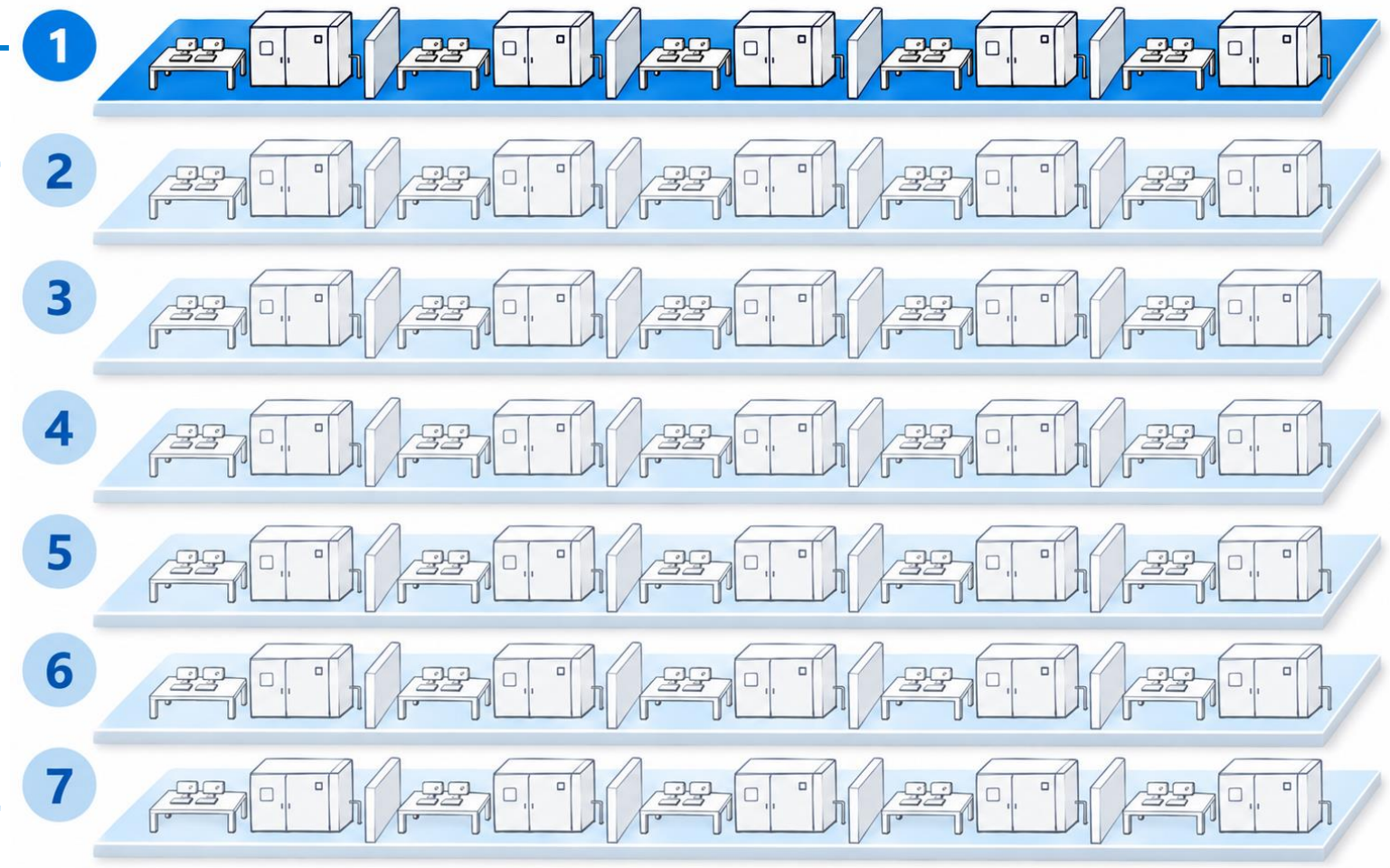
© 2026 Moderna, Inc. All rights reserved.

Modular production units enable disciplined capacity growth

Phased build-out aligns capacity to demand while enabling staged investment and innovation

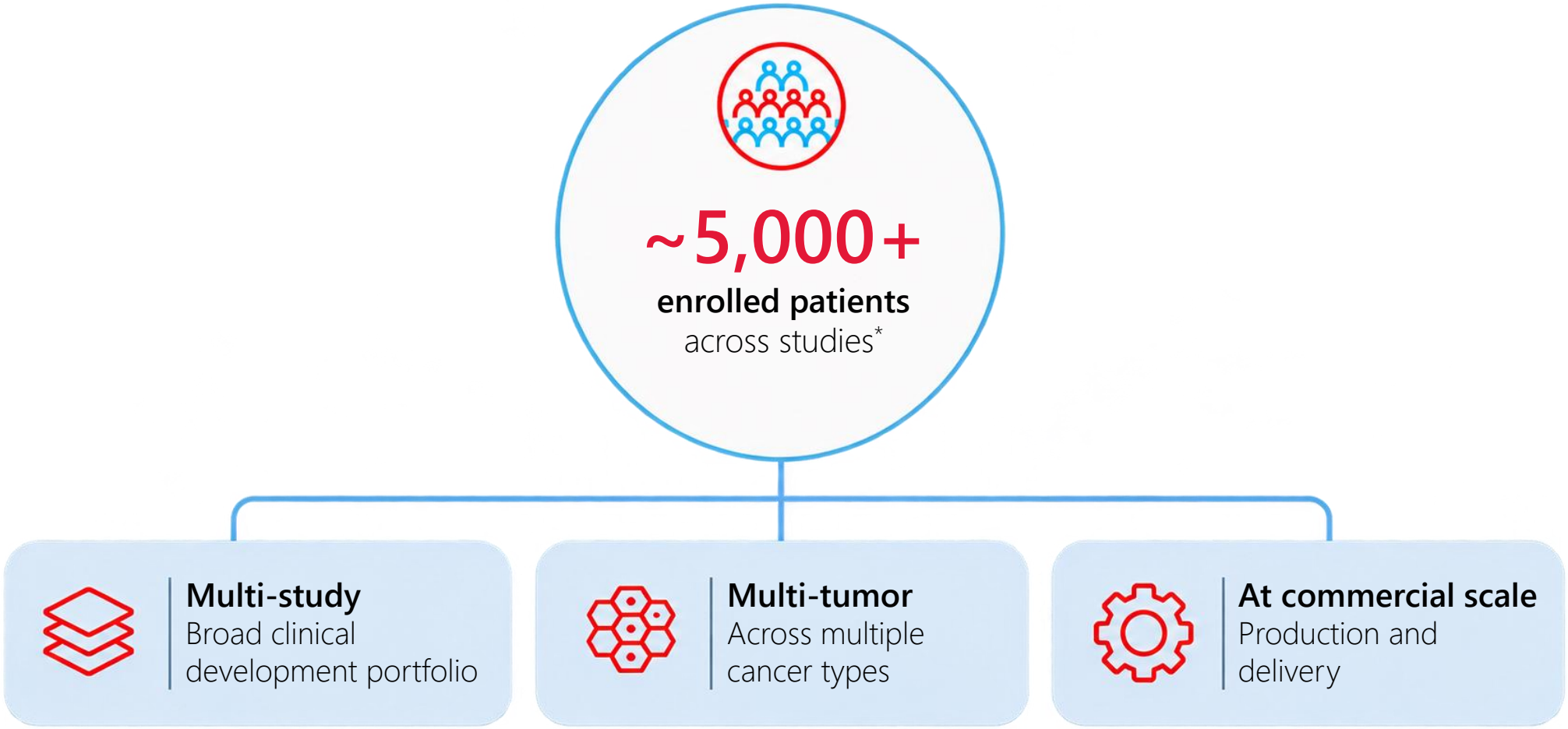
Production unit 1
Currently operational; capacity sufficient for commercial launch and increasing demand

Production units 2-7
Timing of activation as demand signals evolve



© 2026 Moderna, Inc. All rights reserved.

Our clinical development program is already driving commercial-scale individualized manufacturing



*Enrolled patients for studies that are completed and projected per protocol for those that are still ongoing

© 2026 Moderna, Inc. All rights reserved.

moderna

Manufacturing: Key takeaways



Global reach

Established network supports infectious disease vaccine supply



Specialized capabilities

Purpose-built infrastructure enables individualized manufacturing



Disciplined scalability

Efficient operating model supports growth across modalities

© 2026 Moderna, Inc. All rights reserved.

Financials

Jamey Mock

Chief Financial Officer

© 2026 Moderna, Inc. All rights reserved.

Agenda



Review of 2025 Analyst Day objectives



New midterm objectives

© 2026 Moderna, Inc. All rights reserved.

Key takeaways from Analyst Day 2025 financial objectives

Key takeaways (November 2025)

Poised to deliver up to 10% revenue growth in 2026
with multiple growth opportunities in 2027 and beyond

Driving gross margin expansion over coming years
(10%+ over 3 years)

Evolving R&D investments to diversify further
into oncology

Reducing 2027 projected cash costs
to $3.5-3.9 billion and targeting 2028 cash breakeven

Confident in strong financial framework
with enhanced liquidity

© 2025 Moderna, Inc. All rights reserved.

moderna

© 2026 Moderna, Inc. All rights reserved.

moderna

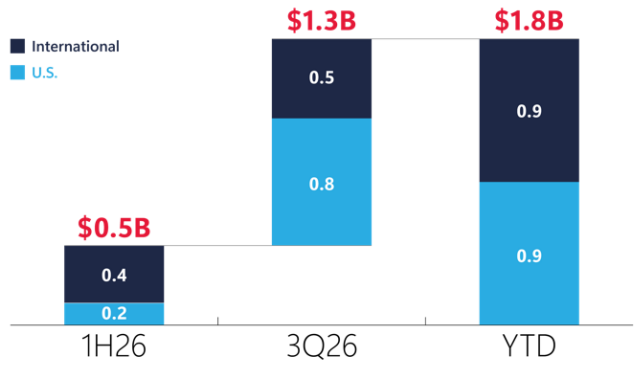
Analyst Day 2025: Objective review

Poised to deliver up to 10% revenue growth in 2026
with multiple growth opportunities in 2027 and beyond

3Q 2026 Update | Financial Review

3Q26 revenue of $1.3B, 1Q-3Q total of $1.8B

Revenue through 3Q26



Values rounded to nearest $0.1B; totals may differ due to rounding

- Strength in 3Q driven by increased demand, operational execution, and timing of shipments between 3Q and 4Q
- Increased 2026 revenue to 15-25% growth, exceeding prior expectation of up to 10% growth
- Continue to expect approximately even split between U.S. and International revenue for 2026

8

© 2026 Moderna, Inc. All rights reserved.

moderna

2026 report card

Revenue
2026 revenue growth of 15-25% expected to exceed original framework of up to 10%

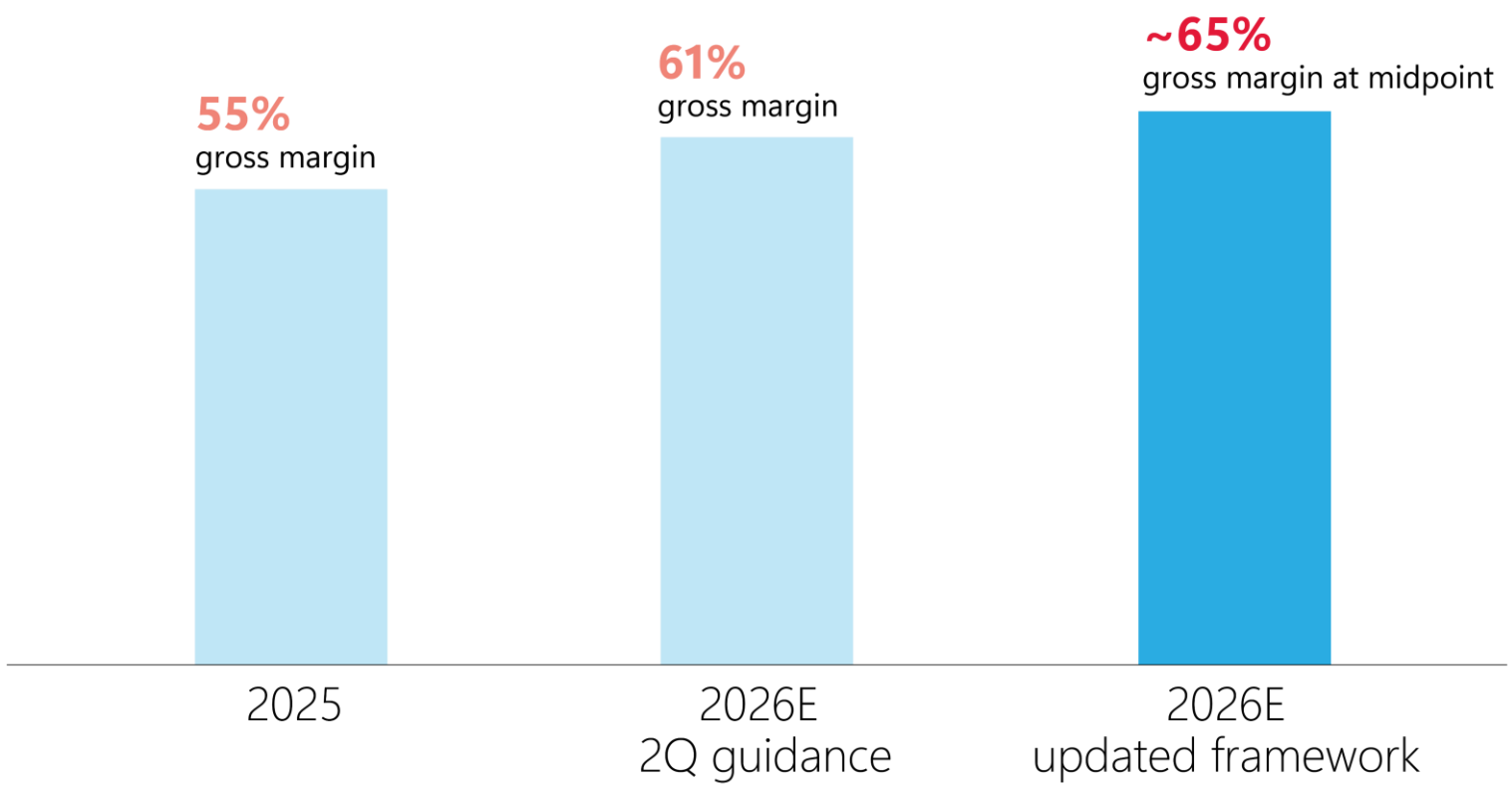
© 2026 Moderna, Inc. All rights reserved.

moderna

Analyst Day 2025: Objective review

Driving gross margin[1] expansion over coming years

(10+ percentage points over 3 years)



2026 report card

Revenue
2026 revenue growth of 15-25% expected to exceed original framework of up to 10%

Gross margins
On track to achieve 10 point gross margin expansion in one year

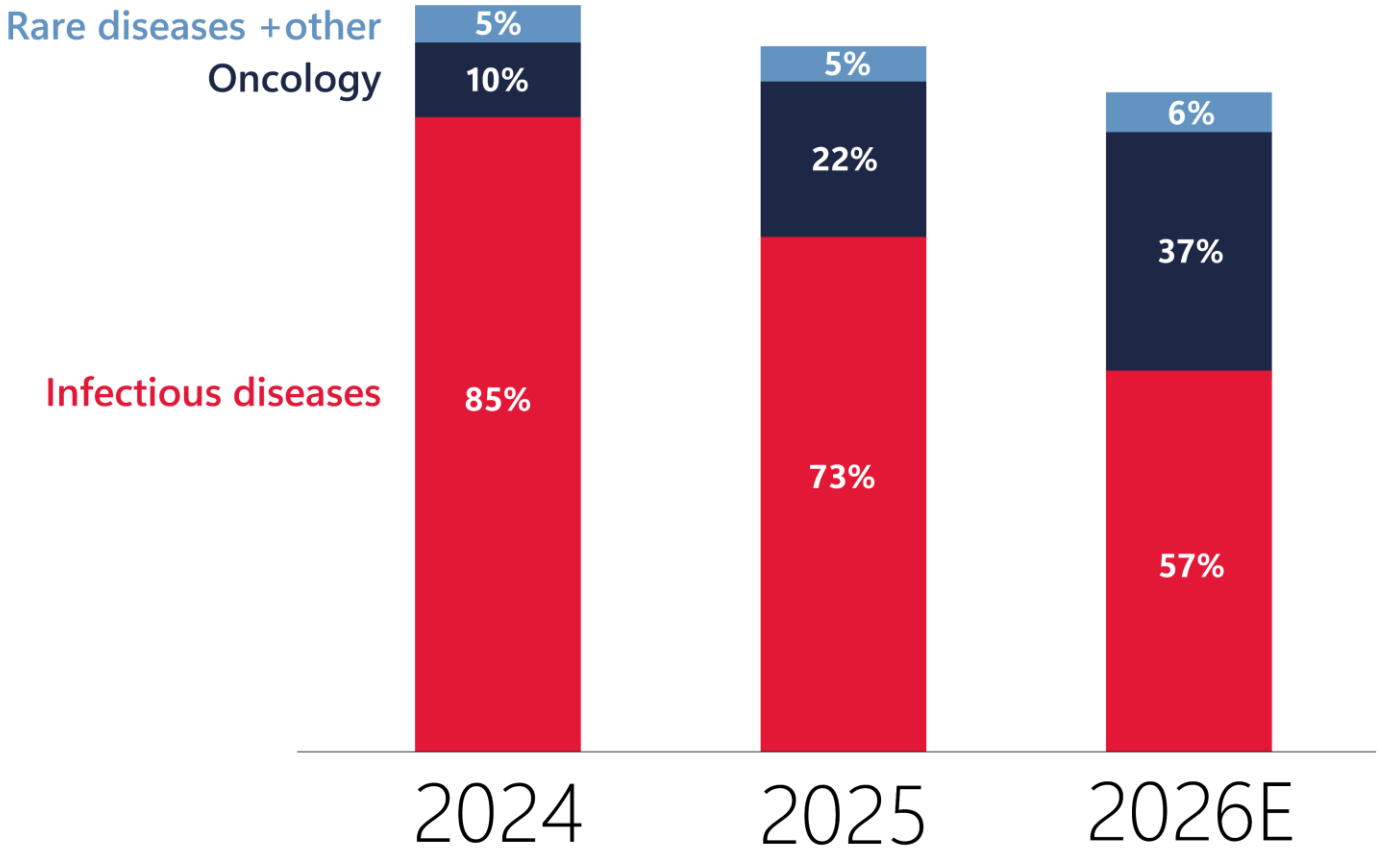
1. Gross margin = [total revenue – cost of sales]/total revenue; with cost of sales excluding $0.9B for litigation settlement charge

© 2026 Moderna, Inc. All rights reserved.

moderna

Analyst Day 2025: Objective review

Evolving R&D investments to diversify further into oncology



2026 report card

Revenue
2026 revenue growth of 15-25% expected to exceed original framework of up to 10%

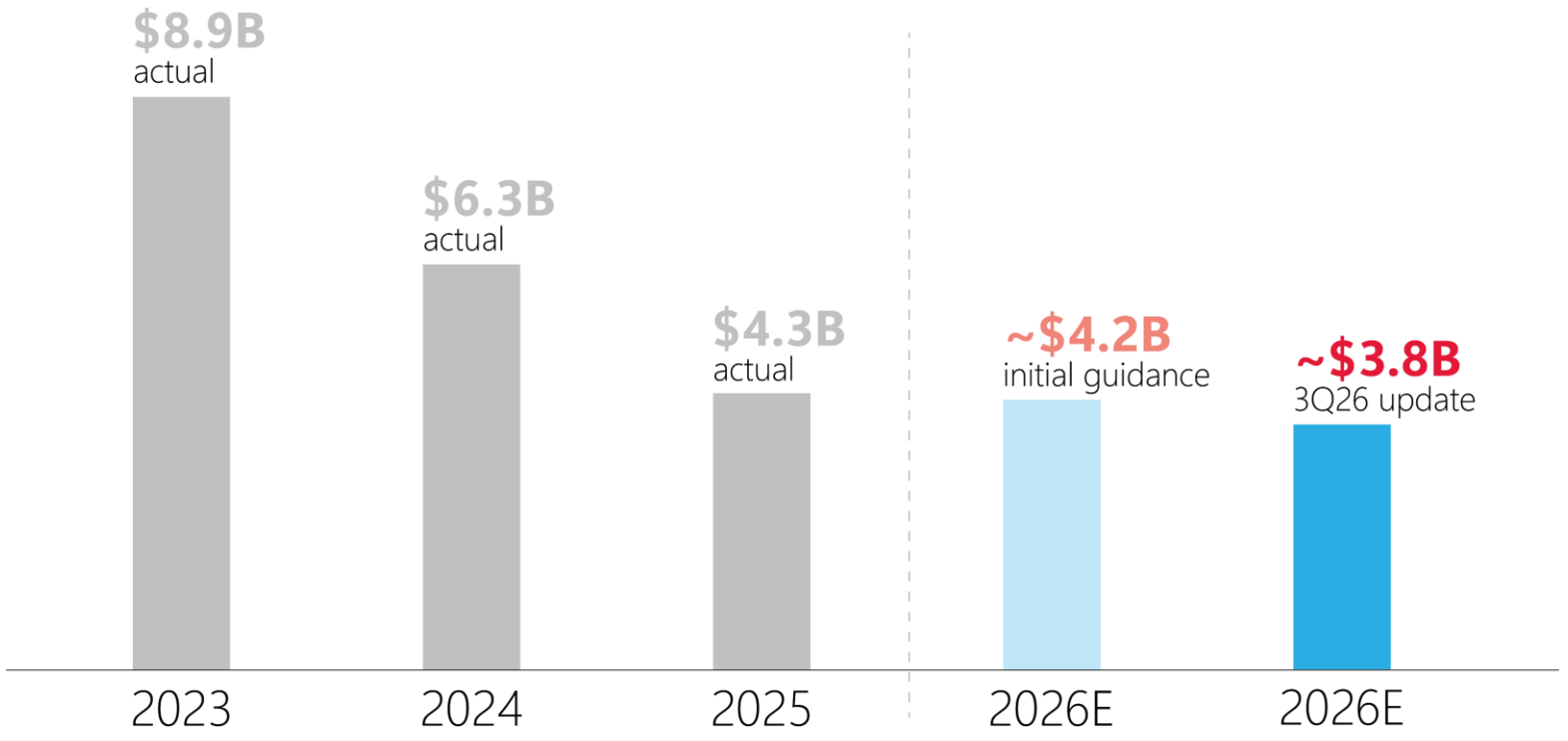
Gross margins
On track to achieve 10 point gross margin expansion in one year

Evolve R&D investments
Oncology investment up 15 percentage points from 2025

© 2026 Moderna, Inc. All rights reserved.

Analyst Day 2025: Objective review

Reducing 2027 projected cash costs[1]
to $3.5-3.9 billion and targeting 2028 cash breakeven



2026 report card

Revenue
2026 revenue growth of 15-25% expected to exceed original framework of up to 10%

Gross margins
On track to achieve 10 point gross margin expansion in one year

Evolve R&D investments
Oncology investment up 15 percentage points from 2025

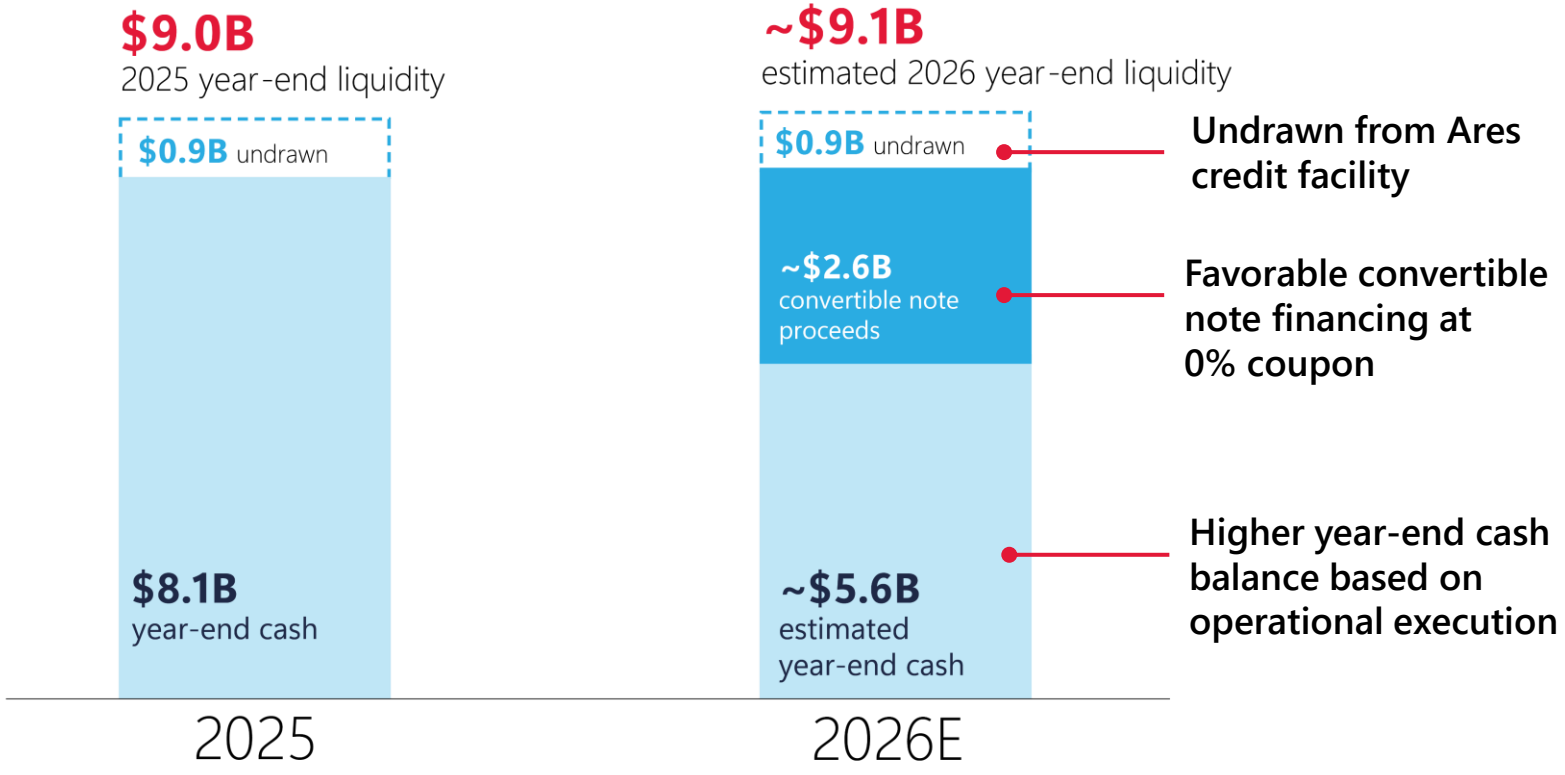
Cash costs
$3.5-3.9B 2027 cost framework pulled forward into 2026

1.Cash costs = GAAP expenses – stock-based compensation – depreciation and amortization; 2023 includes $0.3B manufacturing resizing charges; 2026 excludes litigation charge of $0.9B

© 2026 Moderna, Inc. All rights reserved.

Analyst Day 2025: Objective review

Confident in strong financial framework
with enhanced liquidity



Numbers at midpoint of range
*Total liquidity = cash + investments + undrawn amount from credit facility

2026 report card

Revenue
2026 revenue growth of 15-25% expected to exceed original framework of up to 10%

Gross margins
On track to achieve 10 point gross margin expansion in one year

Evolve R&D investments
Oncology investment up 15 percentage points from 2025

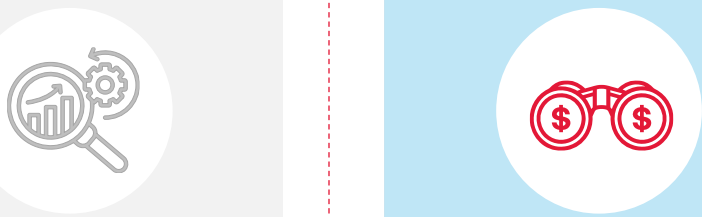
Cash costs
$3.5-3.9B 2027 cost framework pulled forward into 2026

Strong balance sheet
Anticipate ending 2026 with ~$9B in total liquidity

© 2026 Moderna, Inc. All rights reserved.

Agenda

Review of 2025 Analyst Day objectives



New midterm objectives

© 2026 Moderna, Inc. All rights reserved.

moderna

Midterm financial objectives



Build upon renewed growth



Improve infectious disease vaccines profitability



Continue disciplined capital allocation in oncology and emerging pipeline

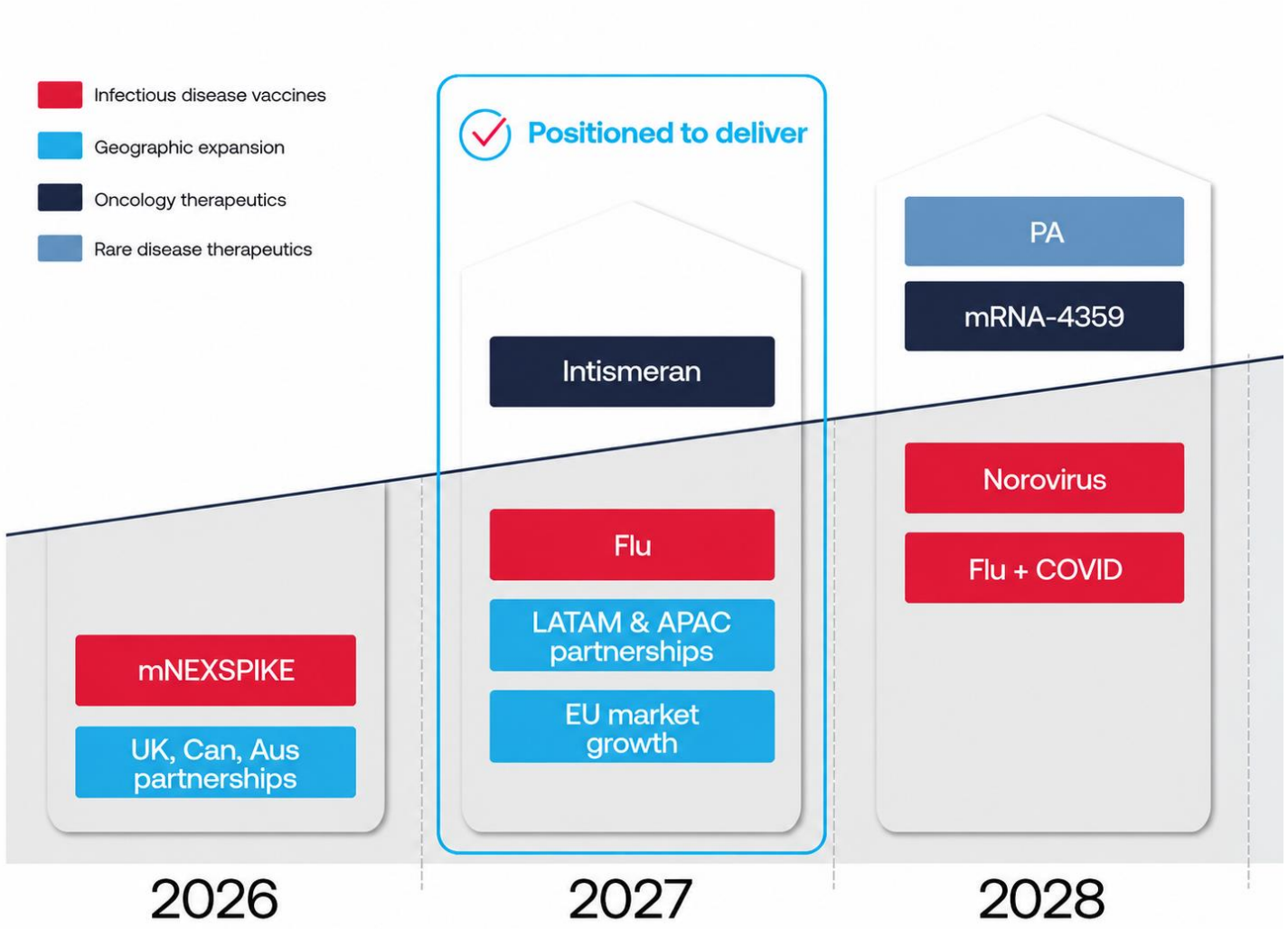


Maintain a strong balance sheet

© 2026 Moderna, Inc. All rights reserved.

moderna

Growth momentum continues into 2027



Continued growth

2026 growth drivers continue to contribute in 2027

Additional opportunities

New growth drivers primarily from infectious disease products and potential intismeran launch

2027 financial framework will be shared at 4Q call

© 2026 Moderna, Inc. All rights reserved.

Multiple levers to improve infectious disease profitability

2026 expectations		Key driver(s)
Revenue[1]	**~$2.3B**	Multiple growth opportunities in 2027 and beyond
Gross margin[1,2]	**65%**	Improving volume leverage, productivity, automation, procurement
R&D[3]	**~$1.1B**	Continued efficiencies and trial wind-down
Commercial & Medical[3]	**~$0.4B**	Sales force leverage, productivity enhancements, including AI and automation

Disciplined reinvestment of commercial cash flows in infectious disease vaccine pipeline

1. Revenue at midpoint of framework range
2. Excluding $0.9B for litigation settlement charge.
3. Cash costs represent GAAP expenses excluding stock-based compensation and depreciation and amortization

© 2026 Moderna, Inc. All rights reserved.

BSMA Innovation Award

Moderna logistics control tower

Protect product value and supply continuity from visibility to protective action

1



See

Global network visibility

Every shipment, sensor, and milestone in one command center

2



Sense

Product integrity monitoring

Continuous temperature and device telemetry across the journey

3

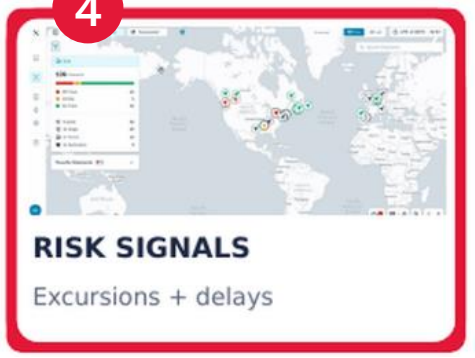


Predict

Live risk intelligence

Identify delays, excursions, and emerging exceptions earlier

4



Act

Proactive intervention

Prioritize response and protect supply before disruption escalates

The impact

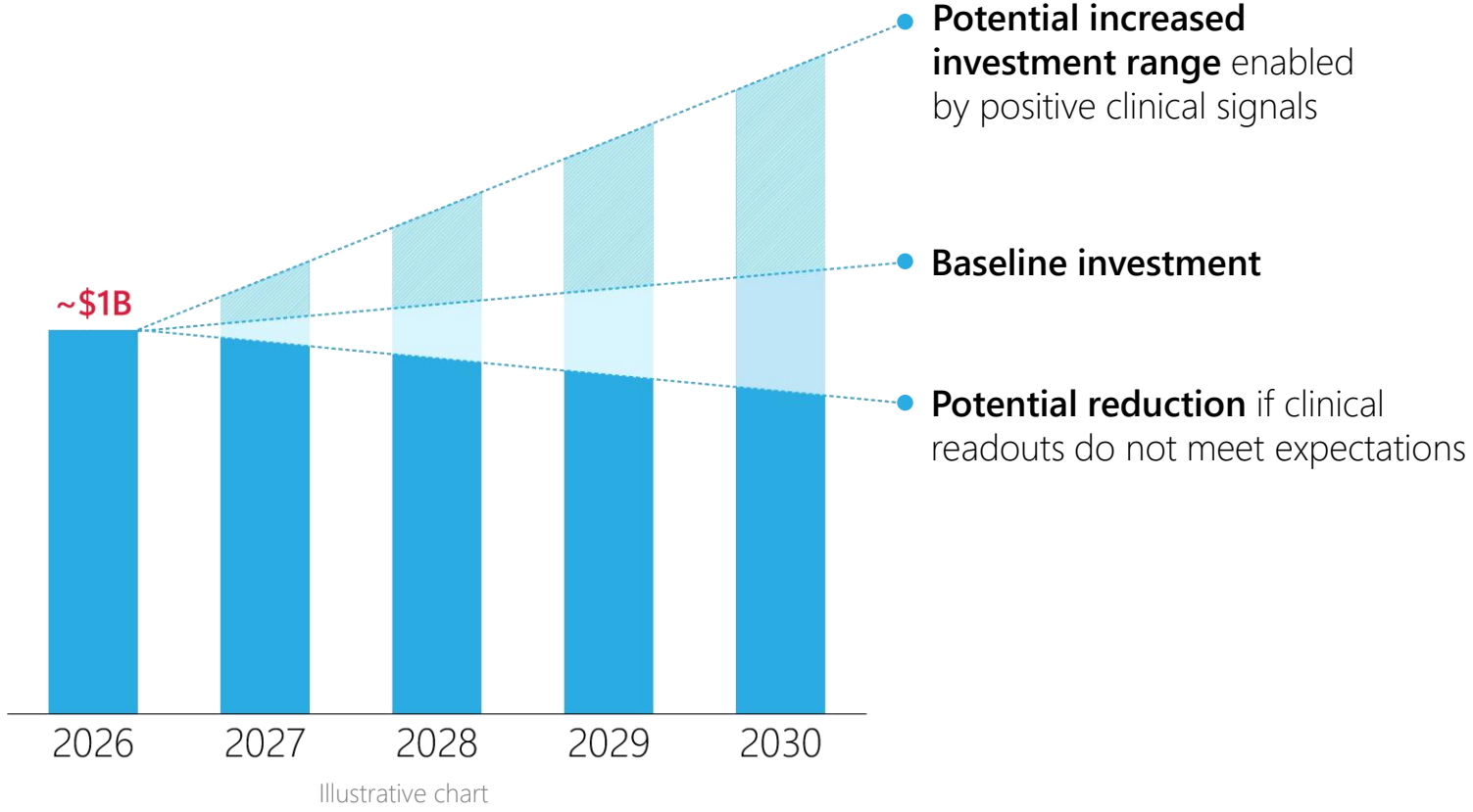
- **Greater supply reliability**
- **Reduced costs**
- **Delivering on our mission**

© 2026 Moderna, Inc. All rights reserved.

moderna

Clinical readouts to guide capital allocation

Potential investments in oncology and emerging pipeline



Illustrative chart

Total Moderna cash costs outlook

Including infectious disease programs and COGS

2027

~$4B in expected cash costs driven by increased investment in oncology

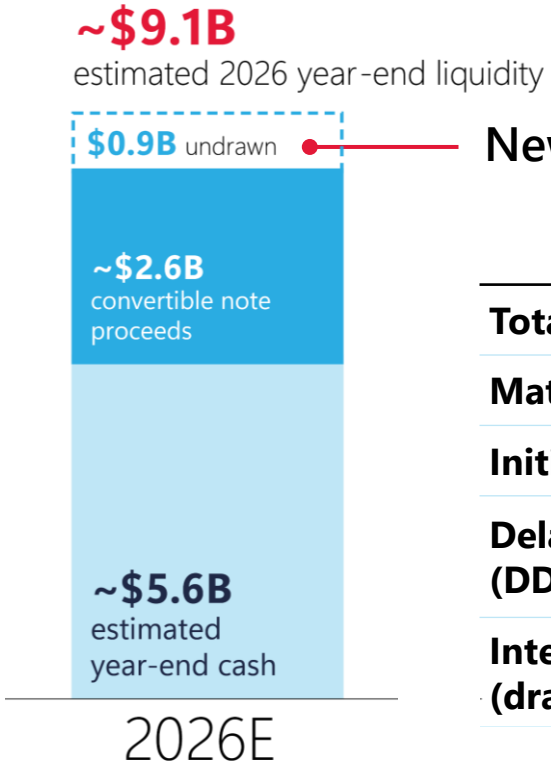
2027–2030

~$4–4.5B in annual cash costs primarily driven by increased investment in oncology

Cash costs = GAAP expenses – stock-based compensation – depreciation and amortization

© 2026 Moderna, Inc. All rights reserved.

Refinanced Ares credit facility with improved terms



New Ares credit facility terms

	Original Terms	Updated Terms
Total Size	$1.5B	No change
Maturity	Nov 2030	Nov 2031
Initial Draw	$0.6B	No change
Delayed Draw (DDTL)	$0.4B by 2027 $0.5B by 2028	$0.9B by 2029
Interest Rate (drawn)	SOFR + 5.50%	SOFR + 4.75%

- Extends maturity by 1 year to 2031
- Extends cutoff for undrawn tranche to 2029
- Reduces interest rate by 75 basis points

Current balance sheet positions us to fund our mid-term investment plan

© 2026 Moderna, Inc. All rights reserved.

New midterm objectives



Build upon renewed growth



Improve infectious disease vaccines profitability



Continue disciplined capital allocation in oncology and emerging pipeline



Maintain a strong balance sheet

© 2026 Moderna, Inc. All rights reserved.

moderna

Business Q&A

© 2026 Moderna, Inc. All rights reserved.

Coffee break

Presentation resumes in 15 minutes

moderna®

Infectious disease vaccines

Rituparna Das, M.D. Ph.D.

Head, Clinical Development, Infectious Diseases, Rare Diseases, and Therapeutics

moderna

© 2026 Moderna, Inc. All rights reserved.

From clinical trials to real-world impact

Real-world evidence complements clinical trials by evaluating vaccine effectiveness, durability, and impact across diverse populations and evolving epidemiologic conditions



Demonstrates real-world impact

Measures protection against hospitalization, severe disease, and other clinically meaningful outcomes



Tracks durability of protection

Evaluates how effectiveness changes over time, across seasons, and with evolving epidemiology



Provides evidence in high-risk populations

Assesses effectiveness among older adults, immunocompromised individuals, and people with comorbidities



Informs vaccine policy and confidence

Supports vaccination recommendations, clinical decision-making, and public health planning

© 2026 Moderna, Inc. All rights reserved.

moderna

Section overview

Real-world evidence data

COVID-19 vaccines

Estimation of mRNA-1283 vs BNT162b2 Vaccine Effectiveness in Older US Veterans

Effectiveness of 2025-2026 mRNA-1283 and BNT162b2 against COVID-19–related Hospitalizations and Medically attended COVID-19 Among Adults Aged ≥65 years in the United States

mRNA-1273 KP.2 vs Protein-based NVX-CoV2705 JN.1 During the 2024–2025 Season (Optum® CDM)

RSV vaccine

Vaccine effectiveness of mRNA-1345 against RSV-associated hospitalization and medically attended acute respiratory illness among US veterans, 2025-2026, RWE Across Two Seasons Summary

Real world evidence study designs

Influenza vaccine

PMR/RWE design + timing

Flu + COVID combination vaccine

Effectiveness of An Influenza/COVID-19 Vaccine (mCombriax [mRNA-1083]) in Adults ≥ 65 Years (DAN-COMBO) study design

© 2026 Moderna, Inc. All rights reserved.

Real-world evidence data
COVID-19 vaccines

© 2020 Moderna, Inc. All rights reserved.

COVID vaccines: Real-world evidence

Estimation of mRNA-1283 vs BNT162b2 Vaccine Effectiveness in Older US Veterans

Kevin W. McConeghy, PharmD, PhD[1,2]; Benjamin Skov, PharmD[1]; Frank DeVone, MS[1]; Amanda Wilson, PhD[3]; Andre Araujo, PhD[3]; Nevena Vicic, MSc[3]; Ekkehard Beck, PhD[3]; Miao Jiang, PhD[3]; Emily Patry, PhD[3]; Tiffany A. Dickey, PharmD[3]; Heather R. Hensler, PhD[3]; Yasin Abul, MD[1,4]; Stefan Gravenstein, MD[1,4]

[1] Transformative Health Systems Research to Improve Veteran Equity and Independence Center of Innovation (THRIVE COIN), Veterans Affairs Providence Health Care System, Providence, Rhode Island, USA.
[2] Department of Health Services, Policy & Practice, Brown University School of Public Health, Providence, Rhode Island, USA.
[3] Moderna, Inc., Cambridge, MA, USA.
[4] Department of Medicine, The Warren Alpert Medical School of Brown University, Providence, Rhode Island, USA.

JAMA Network Open
Published Online: November 11, 2026
2026;9;(11):e2644727. doi:10.1001/jamanetworkopen.2026.44727

Study design

Retrospective matched cohort study using a target trial emulation framework to compare mRNA-1283 vs BNT162b2 in VHA adults ≥65 years

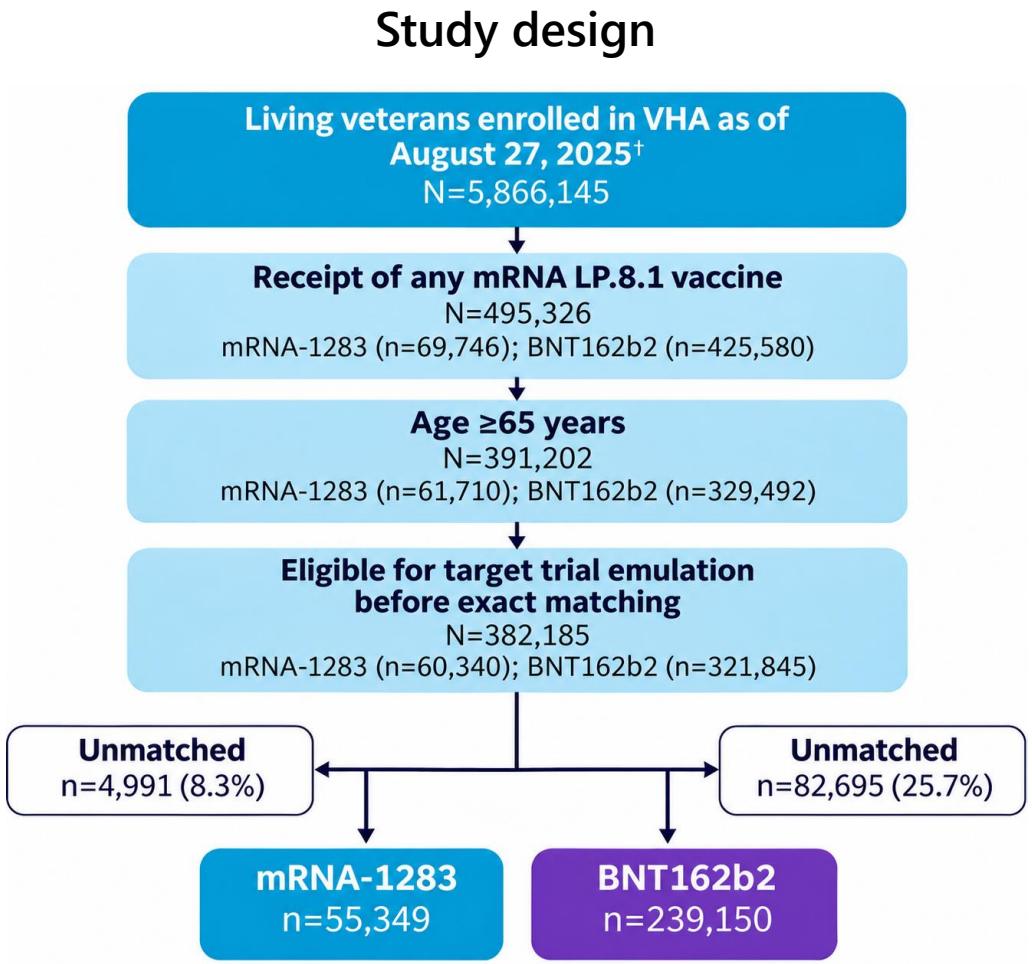
Data source
VHA electronic health record, including
VA Corporate Data Warehouse and linked inpatient, outpatient, laboratory, pharmacy immunization, vital status, and VA-paid non-VA care sources.

Vaccination intake period
August 27, 2025 to January 31, 2026

Follow-up period
From index date* until: Earliest of outcome occurrence; Death; Receipt of an additional COVID-19 vaccine; 150 days or administrative end of follow-up on May 1, 2026

COVID-19 Outcomes
Assessed days 7–150 after vaccination: medically attended† (composite), hospitalization, ED/UC visit, outpatient visit, antiviral treatment, death within 30 days

Exploratory non–COVID-specific Outcome
MACE hospitalization (myocardial infarction, stroke, or heart failure)



Disclaimer: Interpretation of this real-world effectiveness data should be approached with caution.
CLC, community-living center; **VHA**, Veterans Health Administration. ; *Index date was the date of vaccination; events before day 7 were censored for immune lag. †With ≥1 VA healthcare encounter in the year prior to index; key exclusions included SARS-CoV-2 infection/diagnosis or antiviral treatment ≤90 days before/on index; COVID-19 vaccination ≤60 days before index; VA CLC residence; <1 day follow-up; or no eligible match. *JAMA Netw Open*. 2026;9(11):e2644727. doi:10.1001/jamanetworkopen.2026.44727

© 2026 Moderna, Inc. All rights reserved.

Selected baseline characteristics

Retrospective active-comparator matched* cohort study emulating a pragmatic head-to-head randomized trial using VHA EHR data

Eligibility

- **Inclusion**: VHA-enrolled adults ≥65 years with ≥1 prior-year VA healthcare encounter
- **Exclusion**: SARS-CoV-2 infection, COVID-19 diagnosis, or antiviral treatment ≤90 days before/on index; COVID-19 vaccination ≤60 days before index; VA CLC residence at vaccination; <1 day follow-up; or no eligible match

Selected Baseline Characteristics‡	mRNA-1283 n=55,349	BNT162b2 n=239,150
Age (years), mean (SD)	77.70 (6.71)	76.80 (6.70)
≥75 Years, %	70.7	65.2
Male, %	94.6	93.9
KP.2 COVID vaccination, %	86.8	84.8
2024–2025 influenza vaccination, %	93.5	92.1
≥1 CCW Comorbidities§, %	95.1	96.8
Chronic kidney disease	20.1	22.6
COPD	15.4	17.4
Diabetes	36.6	40.3
Ischemic heart disease	25.3	26.4

Disclaimer: Interpretation of this real-world effectiveness data should be approached with caution.

CCW, Chronic Conditions Warehouse; **CLC**, Community Living Center; **COPD**, chronic obstructive pulmonary disease; **ED**, emergency department; **EHR**, electronic health record; **MACE**, major adverse cardiovascular event; **n**, number; **SD**, standard deviation; **SMD,** standardized mean difference**; sIPTW**, stabilized inverse probability of treatment weighting; **UC**, urgent care; **VHA**, Veteran Health Administration.

*Exact matching was performed by county of residence and calendar week of vaccination; sIPTW was used to adjust for residual baseline imbalance. †Medically attended COVID-19 (primary outcome): positive SARS-CoV-2 PCR or antigen test linked to antiviral treatment (molnupiravir or nirmatrelvir) within 5 days or to an outpatient, ED/UC, or hospitalization encounter; or primary ICD-10-CM U07.1 diagnosis code.

‡Post-matching/sIPTW SMDs were <0.10, indicating acceptable covariate balance. §Defined by the Centers for Medicare & Medicaid Services.

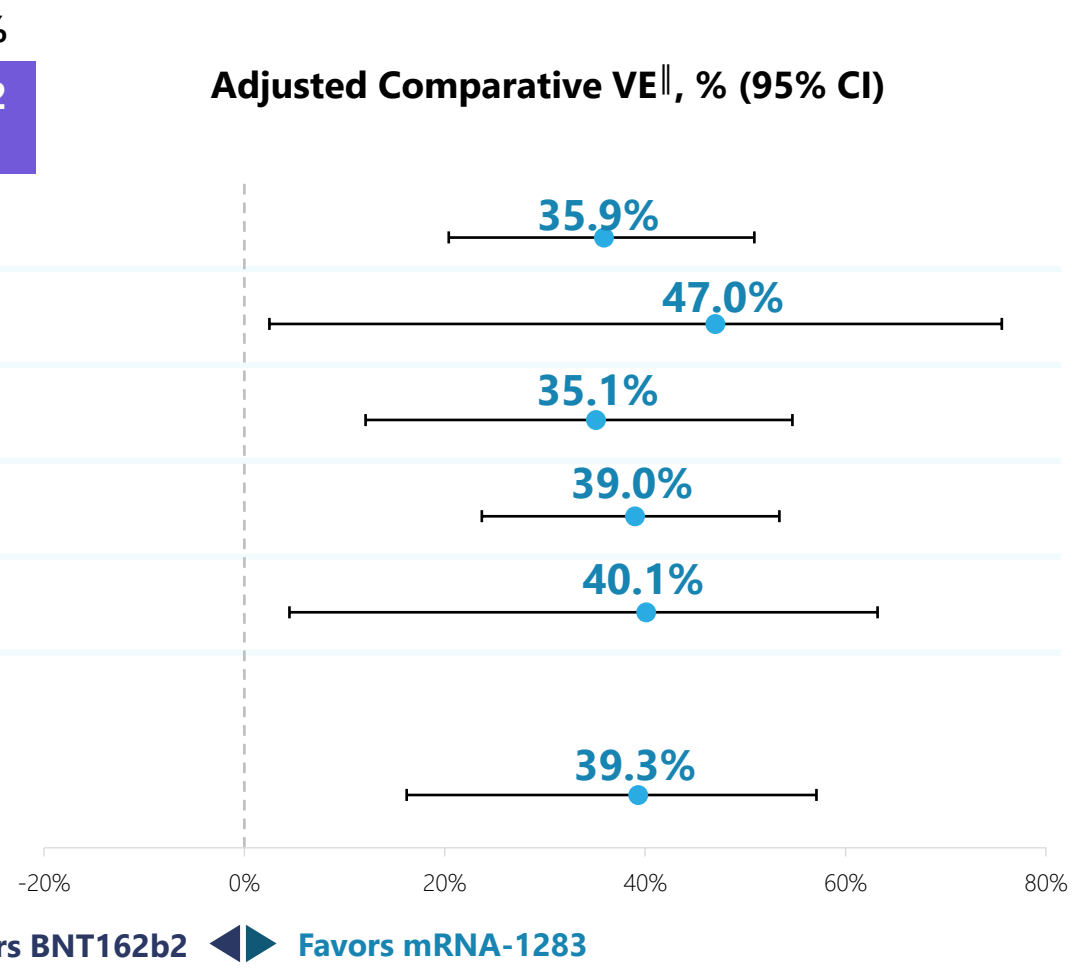
JAMA Netw Open. 2026;9(11):e2644727. doi:10.1001/jamanetworkopen.2026.44727

© 2026 Moderna, Inc. All rights reserved.

moderna

Real-world evidence demonstrated a consistent effectiveness advantage for mRNA-1283 over BNT162b2 LP.8.1 in older adults

	Cumulative Incidence, %	
	mRNA-1283 n=55,349	BNT162b2 n=239,150
Medically-attended[†] (composite)	**0.16**	**0.28**
Hospitalization	**0.02**	**0.05**
ED/UC	**0.08**	**0.16**
Outpatient	**0.13**	**0.24**
Antiviral Treatment[‡]	**0.04**	**0.09**
Exploratory Non–COVID-Specific Outcome		
MACE[§] Hospitalization	**0.07**	**0.15**



Disclaimer: Interpretation of this real-world effectiveness data should be approached with caution.
ED, emergency department; **CI**, confidence interval; **IPTW**, inverse probability of treatment weighting; **MACE**, major adverse cardiovascular event; **n**, number; **PCR**, polymerase chain reaction; **UC**, urgent care; **VE**, vaccine effectiveness; **VHA**, Veteran Health Administration.
*Death within 30 days of medically attended COVID-19: 0.00 vs <0.01; VE not estimable. †Medically attended COVID-19 (primary outcome): positive SARS-CoV-2 PCR or antigen test linked to antiviral treatment within 5 days or to an outpatient, ED/UC, or hospitalization encounter; or primary ICD-10-CM U07.1 diagnosis code. ‡Received either molnupiravir or nirmatrelvir.
§MACE includes either myocardial infarction, stroke, or heart failure. ‖VE matched on county and date with IPTW; calculated as (100% x (1 – relative risk of the cumulative incidences at day 150).
JAMA Netw Open. 2026;9(11):e2644727. doi:10.1001/jamanetworkopen.2026.44727

© 2026 Moderna, Inc. All rights reserved.

Study limitations

Residual Confounding

- Residual confounding may remain despite matching and weighting
- Potential unmeasured factors include undocumented prior infection and facility-level vaccine availability

Interpretation Across Studies

- Differences across studies should be interpreted cautiously
- Estimates may vary by antigenic match, circulating variants, background immunity, outcome definitions, follow-up duration, and study population

Measurement and Outcome Capture

- Outcome misclassification may occur if SARS-CoV-2 testing or diagnosis occurred outside captured care settings
- Differential testing behavior may affect medically attended COVID-19 estimates more than hospitalization estimates
- Mortality and non-VA claims data may be subject to reporting lags

Generalizability

- VHA population was predominantly older and male
- Findings may not be generalizable to broader US populations

Disclaimer: Interpretation of this real-world effectiveness data should be approached with caution.
VHA, Veteran Health Administration.
JAMA Netw Open. 2026;9(11):e2644727. doi:10.1001/jamanetworkopen.2026.44727

© 2026 Moderna, Inc. All rights reserved.

Key takeaways

mRNA-1283 was associated with lower COVID-19 outcome incidence and positive comparative VE vs BNT162b2 in VHA adults ≥65 years

The **highest comparative VE was observed for hospitalization with COVID-19**

Exploratory MACE hospitalization results favored mRNA-1283 and warrant further evaluation

Disclaimer: Interpretation of this real-world effectiveness data should be approached with caution.

JAMA Netw Open. 2026;9(11):e2644727. doi:10.1001/jamanetworkopen.2026.44727

© 2026 Moderna, Inc. All rights reserved.

moderna

COVID vaccines: Real-world evidence

Effectiveness of 2025-2026 mNEXSPIKE (mRNA-1283) and BNT162b2 COVID-19 vaccines against COVID-19–related hospitalizations and medically attended COVID-19 among adults aged ≥65 years in the United States

Nevena Vicic, Alina Bogdanov, Heather Hensler, Taylor Ryan, Ni Zeng, Ekkehard Beck, Emily Patry, Machaon Bonafede, Andre B. Araujo, Amanda Wilson

October 22, 2026
Presented at IDWeek 2026; Washington, DC, USA

Three complementary real-world studies in independent U.S. data sources

01

Veradigm EHR–Claims[1]
Early insight into effectiveness of mRNA COVID-19 vaccines

02

Optum's de-identified Clinformatics® Data Mart Database[2]
Replication and durability analyses of mRNA-1283

03

Medicare FFS[3]
Largest, nationally representative population

EHR, electronic health records; **FFS**, Fee-For-Service.
1. Vicic N, et al. *Infect Dis Ther.* Published online June 24, 2026. doi:10.1007/s40121-026-01395-4; 2. Data on file, not yet published 3. Vicic N, et al. Oral presentation at IDWeek 2026, Not yet published

© 2026 Moderna, Inc. All rights reserved.

Study design: Retrospective matched cohort study

Objective: to estimate the early effectiveness of 2025–2026 updated COVID-19 vaccines in adults aged ≥65 years

Data source
Veradigm EHR linked to Komodo Health claims[1]

Vaccination intake period
Aug 28, 2025 – Jan 31, 2026 (vaccinations through Jan 24, 2026)

Follow-up period
From index date* until the first occurrence of the outcome or until censoring due to health plan disenrollment, receipt of any COVID-19 vaccine during follow-up, or the end of the study period (January 31, 2026)

COVID-19 Outcomes
Hospitalization with COVID-19, medically attended COVID-19

Statistical analysis
Covariate adjustment: Inverse probability of treatment weighting

Balance assessment: Absolute standardized differences

Effect estimation: Cox proportional hazards model Adjusted VE: (1 − hazard ratio) × 100%

Study design



Matching criteria

Age	Geographic region
Sex	Latest database activity
Race/ethnicity	Prior-season COVID-19 vaccination

Disclaimer: Interpretation of this real-world effectiveness data should be approached with caution.
EHR, electronic health records; IPTW, inverse probability of treatment weighting; HR, hazard ratio

*The index date was defined as the date of vaccination among the vaccinated; among the unvaccinated, the matched vaccinated patient's index date was assigned as the unvaccinated control patient's index date; events before day 7 were censored for immune lag
†No record of a 2025-26 COVID-19 vaccine through end of study period. 1. Vicic N, et al. Infect Dis Ther. Published online June 24, 2026. doi:10.1007/s40121-026-01395-4

© 2026 Moderna, Inc. All rights reserved.

moderna

Study population: Baseline characteristics

Baseline characteristics	mRNA-1283 (n=233,072)	Unexposed (n=233,072)	SMD pre	SMD post
Age, mean (SD)	**76 (6.4)**	**76 (6.4)**	0.000	0.002
Female	56.2%	56.2%	0.000	0.000
Male	43.8%	43.8%	0.000	0.000
Received COVID-19 vaccine, prior year	**84.7%**	**84.7%**	0.000	0.006
Prior seasonal influenza vaccine	90.3%	82.3%	0.236	0.001
High-risk conditions*				
Heart conditions	31.7%	35.3%	0.076	0.001
Diabetes	30.7%	35.8%	0.108	0.001
Chronic kidney disease	24.1%	27.7%	0.081	0.001

Baseline characteristics	BNT162b2 (n=422,610)	Unexposed (n=422,610)	SMD pre	SMD post
Age, mean (SD)	**76 (6.4)**	**76 (6.4)**	0.000	0.002
Female	56.3%	56.3%	0.000	0.000
Male	43.7%	43.7%	0.000	0.000
Received COVID-19 vaccine, prior year	**83.2%**	**83.2%**	0.000	0.006
Prior seasonal influenza vaccine	89.8%	81.3%	0.243	0.001
High-risk conditions*				
Heart conditions	33.1%	36.0%	0.059	0.001
Diabetes	32.9%	36.5%	0.077	<0.001
Chronic kidney disease	26.8%	28.6%	0.042	<0.001

Eligibility criteria

- ≥1 year of continuous baseline enrollment
- No recent COVID-19 diagnosis or
- treatment or vaccination
- At least 1 day of follow-up

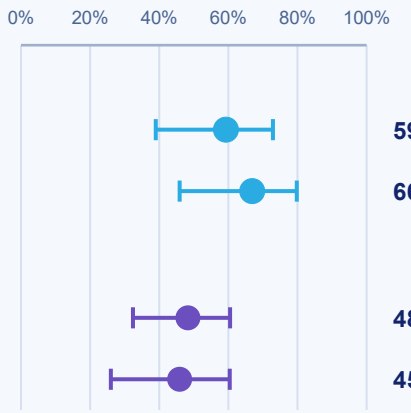
EHR, electronic health records; **SD**, standard deviation; **SMD**, standardized mean difference
*Centers for Disease Control and Prevention Underlying Conditions for Higher Risk for Severe COVID-19. https://www.cdc.gov/covid/hcp/clinical-care/underlying-conditions.html [cited Mar 30 2026].
1. Vicic N, et al. *Infect Dis Ther*. Published online June 24, 2026. doi:10.1007/s40121-026-01395-4

© 2026 Moderna, Inc. All rights reserved.

Observed vaccine effectiveness against hospitalization with documented COVID-19 during the 2025–26 season

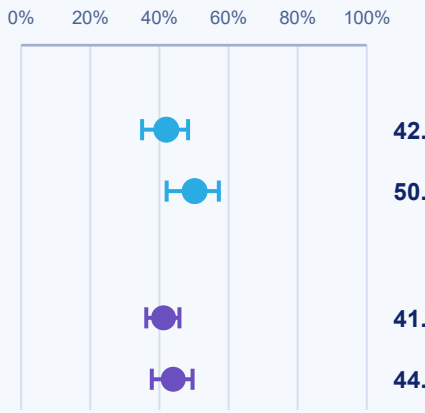
Hospitalization with COVID-19

Age group	Adjusted VE, % (95% CI)	Incidence, % (n) Vaccinated	Incidence, % (n) Unexposed
mRNA-1283			
≥65 years	**59.3 (39.0–72.9)**	0.01 (32)	0.04 (83)
≥75 years	**66.9 (45.9–79.8)**	0.02 (21)	0.05 (64)
BNT162b2			
≥65 years	**48.3 (32.4–60.5)**	0.02 (74)	0.04 (158)
≥75 years	**45.9 (26.0–60.4)**	0.03 (57)	0.05 (111)



Medically attended COVID-19

Age group	Adjusted VE, % (95% CI)	Incidence, % (n) Vaccinated	Incidence, % (n) Unexposed
mRNA-1283			
≥65 years	**42.0 (35.0–48.3)**	0.20 (466)	0.33 (779)
≥75 years	**50.2 (42.1–57.2)**	0.20 (254)	0.39 (497)
BNT162b2			
≥65 years	**41.2 (36.2–45.8)**	0.22 (931)	0.36 (1540)
≥75 years	**44.0 (37.8–49.6)**	0.24 (546)	0.42 (955)



Early evidence demonstrating vaccine effectiveness of COVID-19 vaccines, even in populations with substantial prior immunity

Disclaimer: Interpretation of this real-world effectiveness data should be approached with caution. Study not designed as randomized, head-to-head comparisons, and no conclusions regarding comparative efficacy or safety should be drawn.

EHR, electronic health records; **VE**, vaccine effectiveness; **CI**, confidence interval; **n**, number.

Median follow-up days: mRNA-1283 [≥65: 69 (42–95), ≥75: 68 (43–94)]; BNT-162b2 [≥65: 70 (44–94), ≥75: 70 (45–93)].

Vicic N, et al. *Infect Dis Ther*. Published online June 24, 2026. doi:10.1007/s40121-026-01395-4

© 2026 Moderna, Inc. All rights reserved.

moderna

Three complementary real-world studies in independent U.S. data sources

01

Veradigm EHR–Claims[1]
Early insight into effectiveness of mRNA COVID-19 vaccines

02

Optum's de-identified Clinformatics® Data Mart Database[2]
Replication and durability analyses of mRNA-1283

03

Medicare FFS[3]
Largest, nationally representative population

EHR, electronic health records; **FFS**, Fee-For-Service.
1. Vicic N, et al. *Infect Dis Ther.* Published online June 24, 2026. doi:10.1007/s40121-026-01395-4; 2. Data on file, not yet published 3. Vicic N, et al. Oral presentation at IDWeek 2026, Not yet published

© 2026 Moderna, Inc. All rights reserved.

Study Design: Retrospective matched cohort

Objective: Estimate the effectiveness of mRNA-1283 in adults aged 18+ years

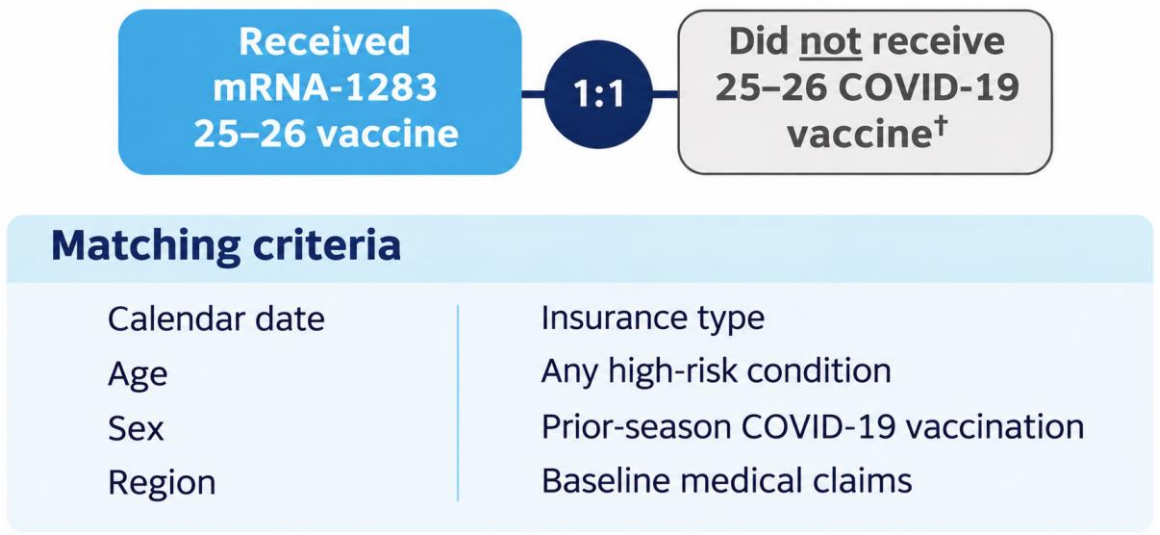
Data source + population
Optum® CDM, Adults ≥18 years

Vaccination intake period
Aug 28, 2025 – Apr 30, 2026
(vaccinations through Feb 28, 2026)

COVID-19 Outcomes
Hospitalization with COVID-19,
medically attended COVID-19

Statistical analysis
- IPTW
- Absolute standardized differences
- Cox proportional hazards model
- Adjusted vaccine effectiveness calculated as (1 – HR) × 100%

Study design



CDM, Clinformatics® Data Mart Database; **SD**, standard deviation; **ASD**, absolute standardized difference
†No record of a 2025-26 COVID-19 vaccine at the date of matching; if patient later received a 2025-26 vaccine, they were either censored or started contributing time to the 'exposed' arm if receiving the vaccine of interest.
*Centers for Disease Control and Prevention Underlying Conditions for Higher Risk for Severe COVID-19. Vicic N, et al. Oral presentation at IDWeek 2026, Not yet published

© 2026 Moderna, Inc. All rights reserved.

moderna

Study population: Baseline characteristics

Baseline characteristics	mRNA-1283 (n=384,652)	Unexposed (n=384,652)	ASD pre	ASD post
Age, mean (SD)	**74.3 (9.58)**	**74.3 (9.75)**	0.006	0.000
Female	56.2%	56.2%	0.000	0.000
Male	43.8%	43.8%	0.000	0.000
Received COVID-19 vaccine, prior year	**82.7%**	**82.7%**	0.000	0.000
Prior seasonal influenza vaccine	85.0%	79.3%	0.148	0.002
High-risk condition*	78.6%	78.6%	0.000	0.000
Heart disease	37.4%	38.5%	0.024	0.000
Diabetes	24.9%	27.9%	0.067	0.000
Chronic kidney disease	17.8%	20.2%	0.060	0.000

All measured baseline characteristics were well balanced after weighting (SMD ≤0.10)

CDM, Clinformatics® Data Mart Database; **SD**, standard deviation; **ASD**, absolute standardized difference
†No record of a 2025-26 COVID-19 vaccine at the date of matching; if patient later received a 2025-26 vaccine, they were either censored or started contributing time to the 'exposed' arm if receiving the vaccine of interest.
*Centers for Disease Control and Prevention Underlying Conditions for Higher Risk for Severe COVID-19. Vicic N, et al. Oral presentation at IDWeek 2026, Not yet published

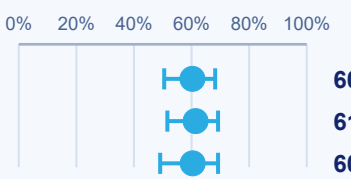
© 2026 Moderna, Inc. All rights reserved.

moderna

mRNA-1283 vaccine effectiveness against hospitalizations with COVID-19 and medically attended COVID-19: by age group and time since vaccination

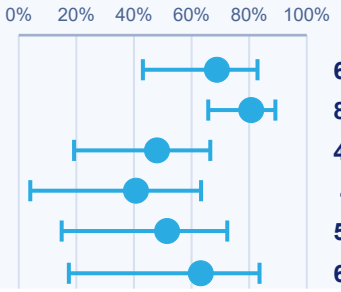
Hospitalization with COVID-19

Age group	Adjusted VE, % (95% CI)	Incidence, % (n) Vaccinated	Incidence, % (n) Unexposed
≥18 years	**60.3 (50.5–68.2)**	0.029 (110)	0.081 (312)
≥65 years	**61.4 (51.6–69.2)**	0.029 (105)	0.085 (306)
≥75 years	**60.4 (49.1–69.2)**	0.043 (85)	0.121 (239)



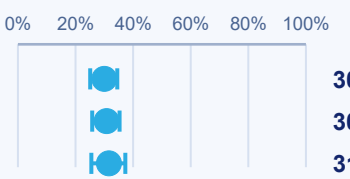
≥18 years

Days since vaccination	Adjusted VE, % (95% CI)	Incidence, % (n) Vaccinated	Incidence, % (n) Unexposed
0–30	**68.8 (43.1–82.9)**	0.0136 (14)	0.0487 (50)
31–60	**80.7 (65.8–89.1)**	0.0170 (14)	0.0976 (80)
61–90	**48.0 (19.2–66.5)**	0.0437 (30)	0.0945 (65)
91–120	**40.7 (4.0–63.3)**	0.0447 (26)	0.0872 (51)
121–150	**51.5 (14.9–72.4)**	0.0356 (18)	0.0787 (40)
151–180	**63.2 (17.4–83.6)**	0.0192 (cens.)	0.0622 (26)



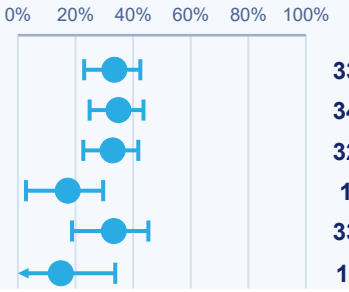
Medically attended COVID-19

Age group	Adjusted VE, % (95% CI)	Incidence, % (n) Vaccinated	Incidence, % (n) Unexposed
≥18 years	**30.0 (25.1–34.5)**	0.391 (1504)	0.578 (2225)
≥65 years	**30.8 (25.8–35.3)**	0.686 (1404)	0.994 (2105)
≥75 years	**31.6 (25.5–37.3)**	1.011 (883)	1.449 (1355)



≥18 years

Days since vaccination	Adjusted VE, % (95% CI)	Incidence, % (n) Vaccinated	Incidence, % (n) Unexposed
0–30	**33.5 (23.0–42.5)**	0.301 (309)	0.467 (476)
31–60	**34.9 (24.9–43.6)**	0.385 (316)	0.607 (497)
61–90	**32.9 (22.7–41.8)**	0.474 (325)	0.741 (508)
91–120	**17.3 (2.8–29.6)**	0.473 (274)	0.593 (345)
121–150	**33.3 (18.8–45.3)**	0.330 (166)	0.512 (258)
151–180	**14.9 (-9.3–33.8)**	0.275 (114)	0.340 (141)



mRNA-1283 demonstrated continued effectiveness against hospitalizations across age groups through 180 days following vaccination

CI, confidence interval; **VE**, vaccine effectiveness. Intervals reflect time since vaccination; event counts shown for mRNA-1283 (LP.8.1) and unexposed referents.; cens, censored as events n <11
Follow-up starts at day 0; however, early COVID-19 infection (any medically attended COVID-19 during first 7 days of follow-up: Day 0 - 6) are censored.
Median follow-up days for hospitalization with COVID-19: mRNA-1283 [≥18: 107 (36, 180), ≥65: 102 (35, 180), ≥75: 100 (34, 180)]; Unexposed [≥18: 108 (36, 180), ≥65: 104 (35, 180), ≥75: 100 (33, 180)]. Vicic N, et al. Oral presentation at IDWeek 2026, Not yet published

© 2026 Moderna, Inc. All rights reserved.

moderna

Three complementary real-world studies in independent U.S. data sources

01

Veradigm EHR–Claims[1]
Early insight into effectiveness of mRNA COVID-19 vaccines

02

Optum's de-identified Clinformatics® Data Mart Database[2]
Replication and durability analyses of mRNA-1283

03

Medicare FFS[3]
Largest, nationally representative population

EHR, electronic health records; **FFS**, Fee-For-Service.
1. Vicic N, et al. *Infect Dis Ther.* Published online June 24, 2026. doi:10.1007/s40121-026-01395-4; 2. Data on file, not yet published 3. Vicic N, et al. Oral presentation at IDWeek 2026, Not yet published

© 2026 Moderna, Inc. All rights reserved.

Study design: Retrospective matched cohort

Objective: Estimate the effectiveness of mRNA-1283 in adults aged ≥65 years

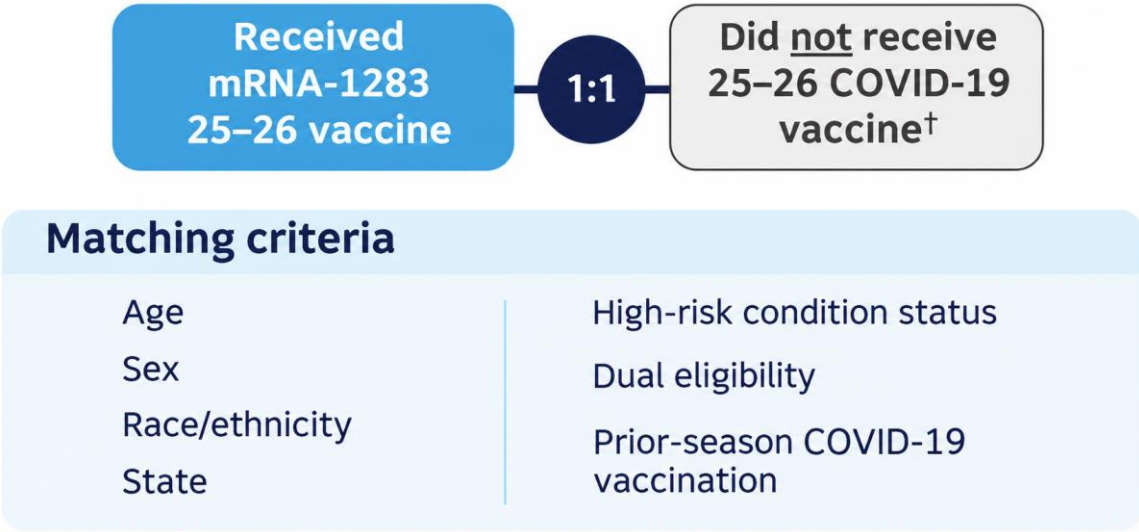
Data source + population
Medicare FFS, Adults ≥65 years

Vaccination intake period
Aug 27, 2025 – Dec 31, 2025
(vaccinations through Dec 23, 2025)

COVID-19 Outcomes
Hospitalization with COVID-19, medically attended COVID-19

Exploratory outcomes
All-cause hospitalization; cardiorespiratory hospitalization; MACE hospitalization

Study design



Medicare Fee for Service data; **SD**, standard deviation; **ASD**, absolute standardized difference; **MACE**: Major cardiovascular events; **IPTW**: Inverse probability of treatment weighting
†No record of a 2025-26 COVID-19 vaccine at the date of matching; if patient later received a 2025-26 vaccine, they were either censored or started contributing time to the 'exposed' arm if receiving the vaccine of interest.
*Centers for Disease Control and Prevention Underlying Conditions for Higher Risk for Severe COVID-19. Vicic N, et al. Oral presentation at IDWeek 2026, Not yet published

© 2026 Moderna, Inc. All rights reserved.

moderna

Study population: Baseline characteristics

Baseline characteristics	mRNA-1283 (n=1,392,308)	Unexposed (n=1,392,308)	ASD pre	ASD post
Age, mean (SD)	**76.3 (6.87)**	**76.3 (7.0)**	0.004	0.001
Female	56.7%	56.7%	0.000	0.000
Male	43.3%	43.3%	0.000	0.000
Received COVID-19 vaccine, prior year	**85.7%**	**85.7%**	0.000	0.001
Prior seasonal influenza vaccine	87.4%	78.7%	0.233	0.002
High-risk condition*	85.0%	85.1%	0.004	<0.001
Heart disease				
Hypertensive heart diseases	9.9%	12.2%	0.074	0.001
Ischemic heart diseases	26.1%	27.6%	0.034	<0.001
Other forms of heart disease	37.8%	39.1%	0.027	<0.001
Diabetes	24.9%	28.1%	0.074	0.001
Chronic kidney disease	19.4%	21.7%	0.058	<0.001

All measured baseline characteristics were well balanced after weighting (SMD ≤0.10)

FFS, Fee-For Service; **MACE**, major adverse cardiovascular event; **IPTW**, inverse probability of treatment weighting; **SD**, standard deviation; **ASD**, absolute standardized difference
†No record of a 2025-26 COVID-19 vaccine through end of study period. *Centers for Disease Control and Prevention. Underlying Conditions and the Higher Risk for Severe COVID-19.
Vicic N, et al. Oral presentation at IDWeek 2026, Not yet published

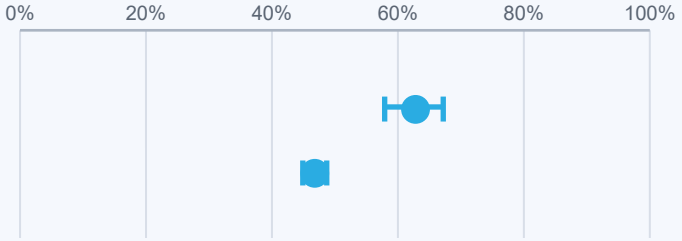
© 2026 Moderna, Inc. All rights reserved.

moderna

mRNA-1283 vaccine effectiveness against COVID-19-related specific and broader clinical outcomes during the 2025-2026 season

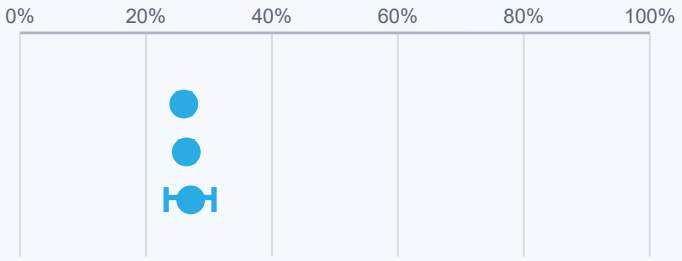
COVID-19–specific outcomes

Outcomes	Adjusted VE, % (95% CI)	Incidence rate per 10,000 person-years (95% CI) Vaccinated	Unexposed
Hospitalization with COVID-19	**62.8 (57.9–67.2)**	11.43 (10.21–12.65)	30.76 (28.75–32.76)
Medically attended COVID-19	**46.8 (44.9–48.7)**	161.09 (156.51–165.67)	302.49 (296.20–308.78)



Broader clinical outcomes

Exploratory Outcomes	Adjusted VE, % (95% CI)		
All-cause hospitalization	**26.0 (25.1–27.0)**	1,465.68 (1,451.86–1479.50)	1,964.62 (1,948.59–1,980.64)
Cardiorespiratory hospitalization	**26.4 (25.5–27.4)**	1,353.99 (1340.71–1367.28)	1,825.53 (1,810.09–1840.98)
MACE hospitalization (based on primary diagnosis code)	**27.1 (23.2–30.8)**	83.27 (79.98–86.57)	114.30 (110.44–118.17)



mRNA-1283 demonstrated significant vaccine effectiveness in a Medicare population, including against broader outcomes

CI, confidence interval; **VE**, vaccine effectiveness; **MACE**, major adverse cardiovascular event; **FFS**, Fee-For Service.
Median follow-up days: mRNA-1283, 82 (61, 98); Unexposed, 82 (61, 98). Vicic N, et al. Oral presentation at IDWeek 2026, 2-3. Not yet published

© 2026 Moderna, Inc. All rights reserved.

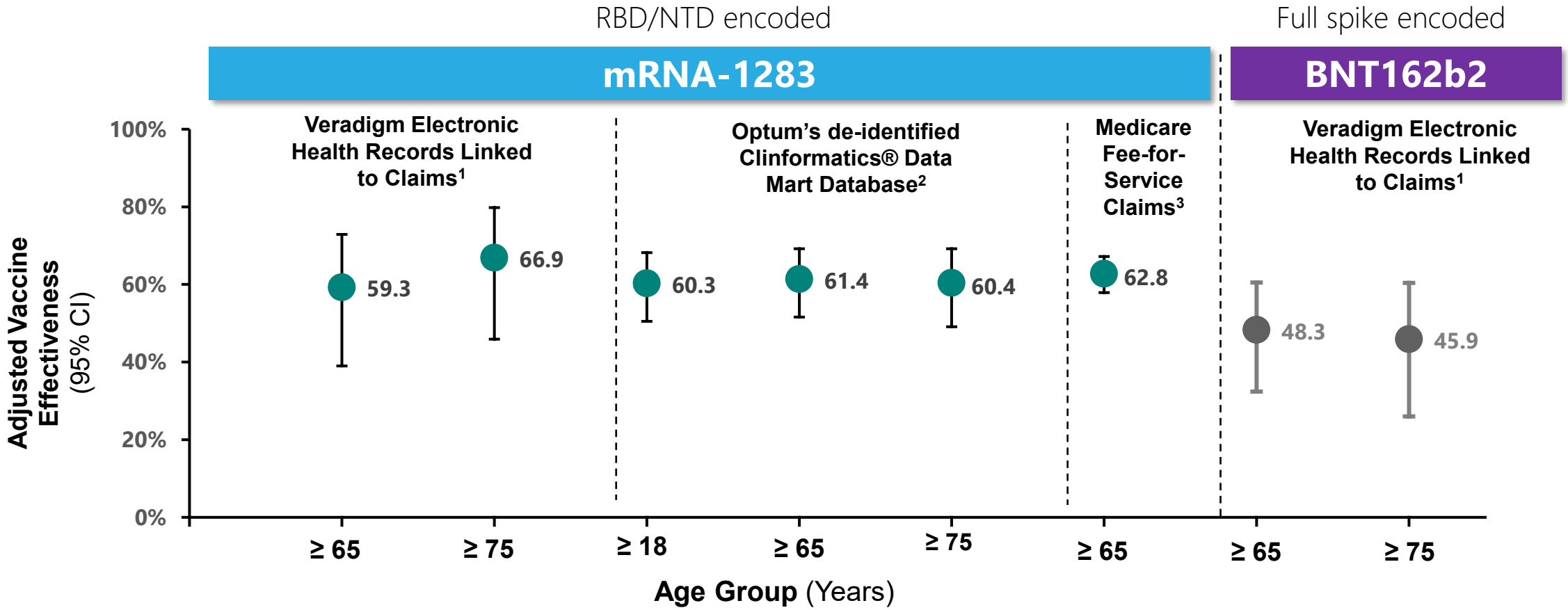
moderna

COVID vaccines: Real-world evidence

mRNA-1283 real-world evidence studies

Recap and key takeaways

COVID-19 vaccine effectiveness against hospitalization in U.S. adults: 2025–2026 season



Observed benefit of updated COVID-19 vaccination in 2025-2026 season

No indirect or direct comparative conclusions of effectiveness should be drawn between studies.

RBD, receptor binding domain; NTD, N-terminal domain

1. Vicic N, et al. *Infect Dis Ther*. Published online June 24, 2026. doi:10.1007/s40121-026-01395-4; 2. Unpublished data. 3. Unpublished data.

© 2026 Moderna, Inc. All rights reserved.

moderna

Key takeaways

Effectiveness demonstrated

In the 2025–2026 U.S. respiratory season, COVID-19 vaccines demonstrated effectiveness against hospitalization with COVID-19 and medically attended COVID-19. Preliminary evidence suggests potential benefit of mRNA-1283 across broader clinical outcomes

Sustained effectiveness over extended follow-up

mRNA-1283 demonstrated continued effectiveness through 180 days follow-up

Consistency of evidence

The consistency of the findings across populations, databases, and outcomes supports the continued benefit of COVID-19 vaccination

© 2026 Moderna, Inc. All rights reserved.

COVID vaccines: Real-world evidence

Comparative effectiveness of Spikevax (mRNA-1273) versus protein-based NVX-CoV2705 vaccination on COVID-19-related outcomes among US insured adults during 2024–2025: A retrospective matched cohort study

Amanda Wilson, Ekkehard Beck, Heather Hensler, Nevena Vicic, Keya Joshi, Emily Patry, Linwei Li, Jane Wang, Chris Clarke

June 6, 2026
Published in *Advances in Therapy*
Volume 43, pages 3994–4007 (2026)
DOI: 10.1007/s12325-026-03650-z

2024-2025 marked the first COVID-19 season with divergent strain compositions and vaccine platforms available in the U.S.



During the US 2024–25 season, FDA-approved COVID-19 vaccines were available using 2 different platforms[1]:

mRNA-Based:
- Moderna vaccine (Spikevax)[2]
- Pfizer/BioNTech vaccine (Comirnaty)[3]

Protein-Based:
- Novavax vaccine (Nuvaxovid)[4]



In June 2024, VRBPAC recommended that 2024–25 COVID-19 vaccines should include ANY JN.1 lineage variant.[5]
- This resulted in the **first COVID-19 season** where different strains were used in approved vaccines (JN.1 in protein-based vaccines and KP.2 in mRNA vaccines)[6]



Data Gap: Limited data exist comparing vaccine effectiveness of protein-based vs mRNA COVID-19 vaccines within the same season, nor any data on vaccines targeting different strains[7]

Disclaimer: Interpretation of this real-world effectiveness data should be approached with caution.

FDA, Food and Drug Administration; **LNP**, lipid nanoparticle; **VRBPAC**, Vaccines and Related Biological Products Advisory Committee.

1. Panagiotakopoulos L, et al. *MMWR Morb Mortal Wkly Rep* 2024;73:819–824. DOI: http://dx.doi.org/10.15585/mmwr.mm7337e2; **2.** Spikevax. Prescribing information. Moderna Tx, Inc; 2025. Accessed March 20, 2026. https://www.fda.gov/vaccines-blood-biologics/Spikevax; **3.** Comirnaty. Prescribing information. BioNTech Manufacturing GmbH. Accessed March 20, 2026. https://www.fda.gov/vaccines-blood-biologics/Comirnaty; **4.** Nuvaxovid. Prescribing information. Novavax, Inc. Accessed March 20, 2026. https://www.fda.gov/vaccines-blood-biologics/vaccines/Nuvaxovid; **5.** FDA. Updated COVID-19 Vaccines for Use in the United States Beginning in Fall 2024. Published August 13, 2024. Accessed March 30, 2026. https://www.fda.gov/vaccines-blood-biologics/updated-covid-19-vaccines-use-united-states-beginning-fall-2024; **6.** VRBPAC. FDA Briefing Document. June 5, 2024. https://www.fda.gov/media/179003/download; **7.** Wilson A, et al. *Adv Ther*. Published online June 6, 2026. doi:10.1007/s12325-026-03650-z

© 2026 Moderna, Inc. All rights reserved.

moderna

Study design: Retrospective 2:1 matched cohort

Matched cohort study of US insured adults 18+ (N=103,710) using Optum® CDM*

Outcomes

Outcomes (assessed from day 7 through up to 180 days post-vaccination)

- Medically-attended COVID-19
- Hospitalization with COVID-19



Disclaimer: Interpretation of this real-world effectiveness data should be approached with caution.

aVE, comparative VE; **CDM,** Clinformatics® Data Mart; **CDC**, Center for Disease Control and Prevention; **n**, number; **SD**, standard deviation.

*Include patients receiving doses between August 31, 2024–February 28, 2025, and had continuous medical and pharmacy enrollment during the 365-day baseline period and ≥1 medical/ pharmacy claim during baseline.

†Weighted with stabilized inverse probability of treatment weights. ‡All post-weighting absolute standardized differences were ≤0.02 across measured covariates.

Wilson A, et al. *Adv Ther*. Published online June 6, 2026. doi:10.1007/s12325-026-03650-z

© 2026 Moderna, Inc. All rights reserved.

moderna

Study population: Baseline characteristics

Exact 2:1 Matching[†]

- Age group
- Sex
- Region
- Insurance type
- US CDC-defined high-risk conditions for severe COVID-19
- Prior-season COVID-19 vaccination
- Week of vaccination

Selected baseline characteristics after weighting[‡]	mRNA-1273 (KP.2–targeted) n=69,140	NVX-CoV2705 (JN.1–targeted) n=34,570
Mean age, years (SD)	66.4 (16.3)	66.2 (16.2)
Age subgroup, % (n)		
18–64 years	30.9% (21,386)	30.9% (10,693)
≥65 years	69.1% (47,754)	69.1% (23,877)
Female, % (n)	57% (39,372)	57% (19,686)
Insurance: Medicare Advantage, % (n)	71% (49,332)	71% (24,666)
Prior-season COVID-19 vaccination, % (n)	75% (51,676)	75% (25,838)
Prior COVID-19 diagnosis in baseline, % (n)	6.3% (4,360)	7.0% (2,424)
US CDC defined high-risk conditions for severe COVID-19, % (n)	75% (52,038)	75% (26,019)

Disclaimer: Interpretation of this real-world effectiveness data should be approached with caution.
CDM, Clinformatics® Data Mart; **CDC**, Center for Disease Control and Prevention; **n**, number; **SD**, standard deviation.
*Include patients receiving doses between August 31, 2024–February 28, 2025, and had continuous medical and pharmacy enrollment during the 365-day baseline period and ≥1 medical/ pharmacy claim during baseline.
[†]Weighted with stabilized inverse probability of treatment weights. [‡]All post-weighting absolute standardized differences were ≤0.02 across measured covariates.
Wilson A, et al. *Adv Ther*. Published online June 6, 2026. doi:10.1007/s12325-026-03650-z

© 2026 Moderna, Inc. All rights reserved.

Comparative vaccine effectiveness of mRNA-1273 vs. NVX-CoV2705 by outcome and age group

Age Group	Outcome	Adjusted cVE, % (95% CI)	Incidence, % mRNA-1273 (n=69,140)	Incidence, % NVX-CoV2705 (n=34,570)
≥18 years	Medically attended COVID-19*	31.7%	1.02	1.48
	Hospitalization with COVID-19†	40.7%	0.09	0.14
≥65 years	Medically attended COVID-19*	25.7%	1.18	1.59
	Hospitalization with COVID-19†	41.7%	0.12	0.20



Disclaimer: Interpretation of this real-world effectiveness data should be approached with caution.
CI, confidence interval; **cVE**, comparative vaccine effectiveness.
*Medically-attended COVID-19 from day 7 after vaccination (the eighth day since vaccination) through a maximum of 180 days, defined by ICD-10-CM code U07.1 in any care setting.
†A subset of medically-attended COVID-19 defined as an inpatient admission with U07.1 in any diagnosis position.
Wilson A, et al. *Adv Ther*. Published online June 6, 2026. doi:10.1007/s12325-026-03650-z

© 2026 Moderna, Inc. All rights reserved.

Study limitations



Confounding and bias

- Residual confounding from unmeasured factors may remain, including healthcare-seeking behavior, frailty, occupational exposure, and home testing practices



Data limitations

- Outcomes were claims-based and did not require laboratory confirmation within the data source
- The database excluded uninsured populations and traditional fee-for-service Medicare populations



Measurement issues

- Some outcome misclassification may have occurred, particularly in outpatient settings
- Hospitalization endpoint may have included incidental SARS-CoV-2 infections



Generalizability

- Low comparator uptake limited exact matching
- These factors may reduce generalizability to the rest of the population

Disclaimer: Interpretation of this real-world effectiveness data should be approached with caution.

Wilson A, et al. Adv Ther. Published online June 6, 2026. doi:10.1007/s12325-026-03650-z

© 2026 Moderna, Inc. All rights reserved.

moderna

Key takeaways

In this study conducted during the 2024–2025 season, **KP.2-targeted mRNA-1273** was associated with a **lower risk of medically attended COVID-19 and hospitalization with COVID-19 in adults** than the protein-based **JN.1-targeted NVX-CoV2705**[1]

Similar differences were observed in adults ≥65 years of age who are known to have a higher rate of severe outcomes[1,2]

This is the first **large claims-based study to directly compare mRNA with protein-based vaccine** recipients during the 2024–25 season in the US and to compare **vaccines with different strain targets within the same season**[1]

Disclaimer: Interpretation of this real-world effectiveness data should be approached with caution.

© 2026 Moderna, Inc. All rights reserved.

moderna

Real-world evidence data
RSV vaccines

© 2026 Moderna, Inc. All rights reserved.

Introduction



Adult RSV vaccines have been available in the US since 2023, but real-world VE data are still emerging.[1]



Clinical trials showed high efficacy against RSV lower respiratory tract disease, but were not powered for severe outcomes (e.g., hospitalization) and underrepresented high-risk groups.[2-4]



Real-world studies of protein-based RSV vaccines have shown VE of ~75%–89% against RSV-associated hospitalization in adults aged ≥60 years with variation across study designs, populations, and endpoints, but **data for mRNA-1345 (approved in the US in 2024) remain limited**.[5-9]

RSV, respiratory syncytial virus; **VE**, vaccine effectiveness.

1. Payne AB, et al. *Lancet*. 2024;404(10462):1547-1559; **2**. Walsh EE, et al. *N Engl J Med*. 2023;388(16):1465-1477; **3.** Wilson E, et al. *N Engl J Med*. 2023;389(24):2233-2244; **4.** Papi A, et al. *N Engl J Med*. 2023;388(7):595-608; **5.** Bajema KL, et al. *JAMA Intern Med*. 2026;186(1):78-88; **6.** Fry SE, et al. *JAMA Netw Open*. 2025;8(5):e258322; **7.** Tartof SY, et al. *JAMA Netw Open*. 2024;7(12):e2450832; **8.** mRESVIA. US Prescribing Information. Updated June 13, 2025. Accessed April 14, 2026. https://www.fda.gov/vaccines-blood-biologics/vaccines/mresvia; **9.** McConeghy KW, et al. *Vaccine*. 2026;88:128882

© 2026 Moderna, Inc. All rights reserved.

moderna

RSV vaccine: Real-world evidence

Vaccine effectiveness of mRNA-1345 against RSV-associated hospitalization and medically attended acute respiratory illness among US veterans, 2025-2026

Kevin W McConeghy, Elissa H Wilker, Frank DeVone, Benjamin Skov, Tianyu Sun, Emily Patry, E Claire Newbern, Andre B Araujo, Parinaz Ghaswalla, Chris Clarke, Jennifer R Tufts, Yasin Abul, Stefan Gravenstein

August 13, 2026
Published in *Vaccine*

RWE across two seasons

Summary of four studies

Two real-world evidence studies in RSV vaccines

01

Vaccine effectiveness of mRNA-1345 against RSV-associated hospitalization and medically attended acute respiratory illness among US veterans, 2025-2026

02

RWE Across Two Seasons Summary

© 2026 Moderna, Inc. All rights reserved.

Study design: Retrospective matched test-negative case control

Within the VHA EHR system among adults ≥50 years

Objective

To evaluate mRNA-1345 VE against RSV-associated hospitalization and medically attended RSV-ARI during the 2025–2026 respiratory season among Veterans aged ≥50 years in the VHA system, where mRNA-1345 was the predominant RSV vaccine administered.

Exposure

Receipt of a single dose of mRNA-1345 ≥14 days prior to the RSV test date

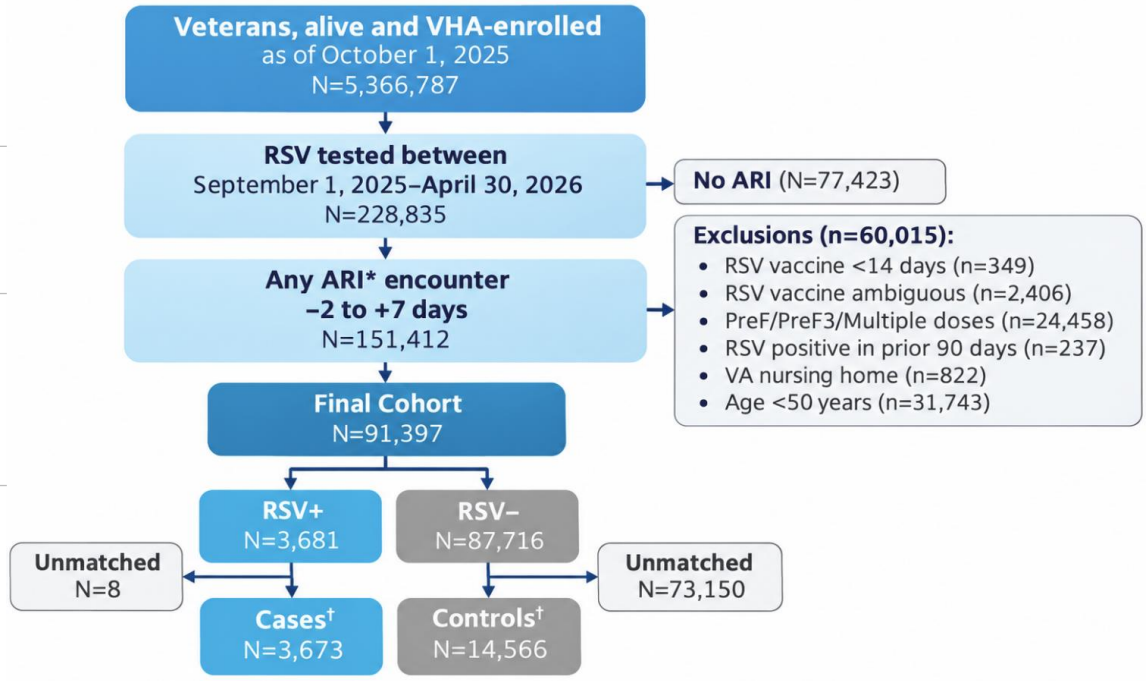
Outcome analysis

Primary: ARI-associated hospitalization, defined as inpatient encounters with an admission occurring within -2 to +7 days of the testing date

Secondary

RSV-ARI encounters in:

- ED/UC
- Outpatient settings, and
- All three combined as medically attended ARI



ARI, acute respiratory infections; **ED**, emergency department; **EHR**, electronic health record; **ICD-10-CM**, International Classification of Diseases Tenth Revision; **N**; number; **RSV,** respiratory syncytial virus; **UC**, urgent care; **VHA**, Veterans Health Administration.

*ARI was defined using prespecified ICD-10-CM diagnosis codes recorded during inpatient, ED/UC, or outpatient encounters.
†Cases and controls were matched in two stages: exact matching by test week, ARI setting, and geographic region, followed by variable 1:4 nearest-neighbor propensity-score matching (maximum caliper, 0.2) based on test date, demographics, rural status, influenza vaccination, concomitant SARS-CoV-2 and influenza test results, and selected chronic conditions; >98% of cases were matched to 4 controls.

McConeghy KW, et al. *Vaccine*. 2026;88:128882

© 2026 Moderna, Inc. All rights reserved.

Study population: Baseline characteristics

	Cases (n=3,673)	Controls (n=14,566)	SMD
Age, mean (SD)	69.6 (10.5)	69.2 (10.6)	0.04
60–74 Years, n (%)	1,571 (42.8%)	6,223 (42.7%)	0.00
≥75 Years, n (%)	1,348 (36.7%)	5,159 (35.4%)	0.03
Male, n (%)	3,264 (88.9%)	12,956 (88.9%)	0.00
Race, n (%)			
White, non-Hispanic	2,377 (64.7%)	9,321 (64.0%)	0.02
Black	874 (23.8%)	3,583 (24.6%)	0.02
Hispanic/Latino, n (%)	309 (8.4%)	1,165 (8.0%)	0.02
Rural, n (%)	880 (24.0%)	3,556 (24.4%)	0.01
VA Frailty Index, mean score (SD)	0.26 (0.15)	0.26 (0.15)	0.01
≥1 Chronic Condition, n (%)	3,582 (97.5%)	14,122 (97.0%)	0.03
CKD	890 (24.2%)	3,307 (22.7%)	0.04
COPD	969 (26.4%)	3,805 (26.1%)	0.01
Diabetes	1,431 (39.0%)	5,644 (38.7%)	0.00
HF/NIHD	673 (18.3%)	2,595 (17.8%)	0.01
Immunocompromised	1,091 (29.7%)	4,250 (29.2%)	0.01

Baseline characteristics were well balanced after matching, supporting comparability between RSV-positive cases and test-negative controls

ARI, acute respiratory infections; **CKD**, chronic kidney disease; **COPD**, chronic obstructive pulmonary disease; **HF**, heart failure; **n**, number; **NIHD,** non-ischemic heart disease; **SD**, standard deviation; **SMD**, standardized mean difference. ; McConeghy KW, et al. *Vaccine*. 2026;88:128882

© 2026 Moderna, Inc. All rights reserved.

moderna

Estimated mRNA-1345 vaccine effectiveness against RSV-positive ARI-associated outcomes in veterans ≥50 years

Matched*, Adjusted Set

	Cases n=3,673		Controls n=14,566		mRNA-1345 VE‡, % (95% CI)
	Vaccinated	Unvaccinated	Vaccinated	Unvaccinated	
Primary Outcome					
Hospitalizations	<5†	649	49	2,523	**85%** (39–96)
Secondary Outcomes					
ED/UC encounters	17	2,302	148	9,073	**57%** (28–74)
Outpatient visits	<5†	701	54	2,719	**71%** (19–90)
Medically-attended RSV-ARI	23	3,650	251	14,315	**65%** (45–77)



mRNA-1345 vaccination was associated with substantial protection against RSV-positive ARI hospitalization, with generally consistent effectiveness across medically attended outcomes.

ARI, acute respiratory illness; **CI**, confidence interval; **ED**, emergency department; **UC**, urgent care; **RSV**, respiratory syncytial virus; **VA**, Veterans Affairs, **VE**, vaccine effectiveness.
*RSV-positive cases were matched to RSV-negative controls using a variable 1:4 ratio; >98% of cases were matched to 4 controls.
†Low cell counts were masked and reported as "<5" in accordance with VA data policy. ‡VE = (1 − adjusted odds ratio) x 100%.
McConeghy KW, et al. *Vaccine*. 2026;88:128882

© 2026 Moderna, Inc. All rights reserved.

moderna

Study limitations

Limited precision for hospitalization estimate

- Few vaccinated RSV-positive hospitalized cases were observed
- Hospitalization VE suggests substantial protection, although the effect estimate was imprecise
- Continued data accrual may improve precision and durability assessment

Residual Confounding

- Residual confounding may remain despite matching and adjustment for demographic and clinical characteristics

Measurement and Outcome Capture

- Undocumented RSV vaccination may have led to misclassification and more conservative VE estimates
- The ARI coding requirement may have excluded uncoded respiratory infections

Testing, Coding, and Generalizability

- RSV testing varied by provider discretion and site-specific practices, which may introduce bias
- Bias may occur if ARI coding is insensitive, nonspecific, or differs by test status
- The predominantly male Veteran population with a history of military service may limit generalizability

Disclaimer: Interpretation of this real-world effectiveness data should be approached with caution.
VHA, Veteran Health Administration.
McConeghy KW, et al. *Vaccine*. 2026;88:128882

© 2026 Moderna, Inc. All rights reserved.

moderna

Key takeaways

Study provides **initial real-world effectiveness evidence for mRNA-1345**, an mRNA-based RSV vaccine

Evaluates effectiveness in a high-risk VHA population ≥50 years with comorbidities, frailty, and immunocompromising conditions

Reductions in RSV-positive ARI–associated hospitalizations and medically attended encounters **may translate to lower healthcare resource utilization**

ARI, acute respiratory illness; **CI**, confidence interval; **ED**, emergency department; **UC**, urgent care; **RSV**, respiratory syncytial virus; **VE**, vaccine effectiveness.

McConeghy KW, et al. *Vaccine*. 2026;88:128882

© 2026 Moderna, Inc. All rights reserved.

moderna

Two real-world evidence studies in RSV vaccines

01

Vaccine effectiveness of mRNA-1345 against RSV-associated hospitalization and medically attended acute respiratory illness among US veterans, 2025-2026

02

RWE Across Two Seasons Summary

© 2026 Moderna, Inc. All rights reserved.

Summary of RSV vaccine effectiveness studies in the U.S. across two seasons

	IVY Network[1]	VISION Network[2]	VHA[3]	KPSC[4]
Design	**Test-negative, case-control**	**Test-negative, case-control**	**Target trial emulation**	**Test-negative, case-control**
Setting / Size	**Adults aged ≥60 with ARI** • N=6,958 • EHR: 26 hospitals in 20 US states • 2023–24 & 2024–25	**Adults aged ≥60 hospitalized with RSV-like illness** • N=83,652 • EHR: >200 US hospitals • 2023–24 & 2024–25	**Adults aged ≥60 with RSV test** • N=576,222 • VA Network • 2023–24 & 2024–25	**Adults aged ≥60 hospitalized/in ED with LRTD** • N=9,836 • KPSC Network • 2023–24 & 2024–25
Exposures	**One dose ≥14 days before illness**	**One dose ≥14 days before illness**	**One dose ≥14 days before illness**	**One dose ≥21 days before illness**
Time Frame	• Two Seasons • Same- vs prior-season	By time after vaccination	Time since vaccination	• First and second season • Time since vaccination
Endpoints	• RSV-related **hospitalization** • **Severe in-hospital outcomes**	RSV-related **hospitalization, critical illness** (ICU or death)	• **RSV infection** • RSV-related **ED/UC, hospitalization**, ICU **admission**	RSV-related **LRTD hospitalization/ED**

This slide includes data presented at congress that are not yet peer-reviewed.

ARI, acute respiratory illness; **ED**, emergency department; **EHR**, electronic health record; **ICU**, intensive care unit; **KPSC**, Kaiser Permanente of Southern California; **LRTD**, lower respiratory tract disease; **RSV**, respiratory syncytial virus; **VA**, Veteran Affairs; **VHA**, Veteran Health Administration; **UC**, urgent care; **US**, United States.

1. Surie D, et al. *JAMA*. 2025;334(16):1442; **2.** Link-Gelles R, et al. *Open Forum Infect Dis*. 2026;13(Supplement_1):ofaf695.079; **3.** Bajema KL, et al. *JAMA Intern Med*. 2026;186(1):78;
4. Tartof SY, et al. Vaccine Effectiveness of Abrysvo against Respiratory Syncytial Virus related Lower Respiratory Tract Disease Hospitalizations and Emergency Department Admissions over Two RSV Seasons—KPSC, October 2023–April 2025. Presented at IDWeek; October 20, 2025; Atlanta, GA; Oral Presentation #228

© 2026 Moderna, Inc. All rights reserved.

moderna

RSV vaccine effectiveness against RSV-associated hospitalization across two seasons in adults aged ≥60

Overall population

Study	Design	Vaccine(s)	n	Follow up, days (range)	Season Assessed	VE, % (95% CI)
IVY Network[1,*]	Test-negative	RSVpreF RSVPreF3	778	92 (54–128)	First	**69%** (52–81)
			801	419 (357–467)	Second	**48%**[¶] (27–63)
VISION network[2,†]	Test-negative	RSVpreF RSVPreF3 mRNA-1345	2401	87 (72, 102)	First	**78%**[#] (68–85)
			4438	429 (397–465)	Second	**42%**[#] (30–53)
VHA[3,‡]	Target trial emulation	RSVpreF RSVPreF3	288,111	NR (0–6 mos)	First	**81%** (70–89)
			282,333	NR (12–18 mos)	Second	**49%** (29–64)
KPSC[4,§,‖]	Test-negative	RSVpreF	2235	84 (52–126)	First	**81%** (68–88)
			1089	372 (342–403)	Second	**75%** (47–89)



This slide includes data presented at congress that are not yet peer-reviewed.
KPSC, Kaiser Permanente of Southern California; **LRTD**, lower respiratory tract disease; **n**, number of participants; **NR**, not reported; **RSV**, respiratory syncytial virus; **VE**, vaccine effectiveness; **VHA**, Veteran Health Administration.
*Oct 1, 2023–Mar 31, 2024, and Oct 1, 2024–Apr 30, 2025.[1] †Oct 2023–Mar 2024, and Oct 2024–Mar 2025.[2] ‡Sep 1, 2023–Mar 31, 2024, and followed up through Mar 31, 2025.[3] §Nov 24, 2023–Apr 9, 2024, and Nov 5, 2024–Apr 21, 2025.[4] ‖Endpoint includes LRTD hospitalization or emergency department visits.[4] ¶Reflects prior season vaccination, not a newly vaccinated second-season cohort.[1] #VISION estimates are by time since vaccination; the first-season value reflects 60–119 days post-vaccination and the second-season value reflects ≥12 months post-vaccination, not average VE for each season.[2]

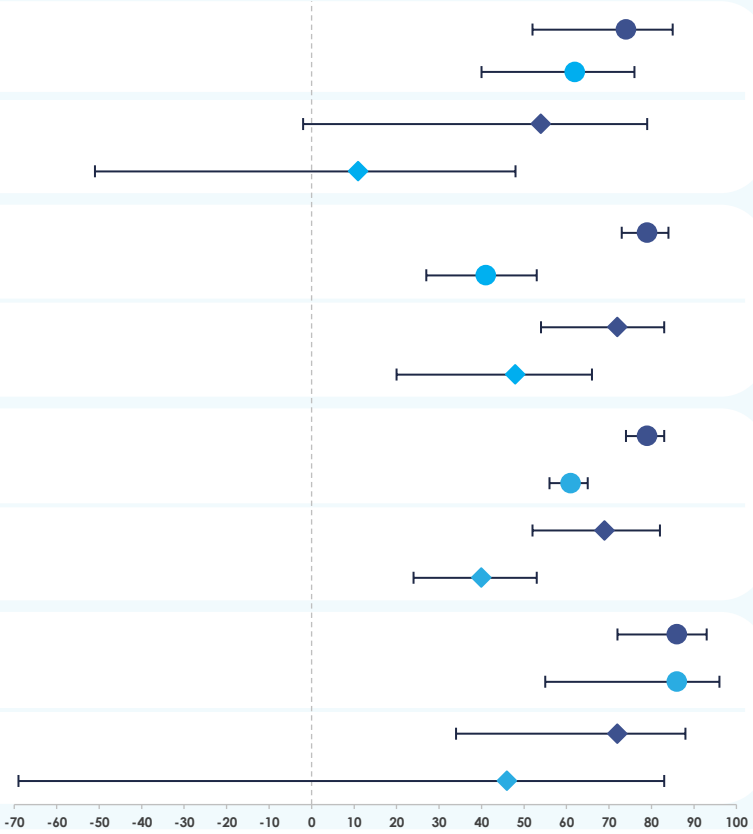
1. Surie D, et al. *JAMA*. 2025;334(16):1442; **2.** Link-Gelles R, et al. *Open Forum Infect Dis*. 2026;13:ofaf695.079 and Supplement; **3.** Bajema KL, et al. *JAMA Intern Med*. 2026;186(1):78 and Supplement; **4.** Tartof SY, et al. Vaccine Effectiveness of Abrysvo against Respiratory Syncytial Virus related Lower Respiratory Tract Disease Hospitalizations and Emergency Department Admissions over Two RSV Seasons—KPSC, October 2023–April 2025. Presented at IDWeek; October 20, 2025; Atlanta, GA; Oral Presentation #228

© 2026 Moderna, Inc. All rights reserved.

RSV vaccine effectiveness against RSV-associated hospitalization across two seasons in adults aged ≥60

Immunocompromised (IC) subgroup analyses

Study	Design	Vaccine(s)	IC Status	n	Follow up, days (range)	Season Assessed	VE, % (95% CI)
IVY network[1,*]	Test-negative	RSVpreF RSVPreF3	No	603	86 (50–127)	First	**74%** (53–85)
				612	420 (363–467)	Second	**62%** (40–76)
			Yes	175	100 (65–133)	First	**54%** (-2–79)
				189	418 (342–464)	Second	**11%** (-51–48)
VISION network[2,†]	Test-negative	RSVpreF RSVPreF3 mRNA-1345	No	4062	76 (45–111)	First	**79%** (73–84)
				3233	430 (397–466)	Second	**41%** (27–53)
			Yes	1391	74 (45–108)	First	**72%** (54–83)
				1239	425 (396–460)	Second	**48%** (20–66)
VHA[3,‡]	Target trial emulation	RSVpreF RSVPreF3	No	271,020	NR (0–6 mos)	First	**79%** (74–83)
				NR	NR (0–18 mos)	Second	**61%** (56–65)
			Yes	19,296	NR (0–6 mos)	First	**69%** (52–82)
				NR	NR (0–18 mos)	Second	**40%** (24–53)
KPSC[4,§,‖]	Test-negative	RSVpreF	No	1749	NR	First	**86%** (72–93)
				855	NR	Second	**86%** (55–96)
			Yes	485	NR	First	**72%** (34–88)
				233	NR	Second	**46%** (-69–83)



This slide includes data presented at congress that are not yet peer-reviewed.

KPSC, Kaiser Permanente of Southern California; **LRTD**, lower respiratory tract disease; **n**, number of participants; **NR**, not reported; **RSV**, respiratory syncytial virus; **VE**, vaccine effectiveness; **US**, United States.

*Oct 1, 2023–Mar 31, 2024, and Oct 1, 2024–Apr 30, 2025.[1] †Oct 2023–Mar 2024, and Oct 2024–Mar 2025.[2] ‡Sep 1, 2023–Mar 31, 2024, and followed up through Mar 31, 2025.[3]

§Nov 24, 2023–Apr 9, 2024, and Nov 5, 2024–Apr 21, 2025.[4] ‖Endpoint includes LRTD hospitalization or emergency department visits.[4]

1. Surie D, et al. *JAMA*. 2025;334(16):1442; **2.** Link-Gelles R, et al. *Open Forum Infect Dis*. 2026;13:ofaf695.079 and Supplement; **3.** Bajema KL, et al. *JAMA Intern Med*. 2026;186(1):78 and Supplement; **4.** Tartof SY, et al. Vaccine Effectiveness of Abrysvo against Respiratory Syncytial Virus related Lower Respiratory Tract Disease Hospitalizations and Emergency Department Admissions over Two RSV Seasons—KPSC, October 2023–April 2025. Presented at IDWeek; October 20, 2025; Atlanta, GA; Oral Presentation #228

© 2026 Moderna, Inc. All rights reserved.

moderna

Key takeaways

Across multiple large US networks over two RSV seasons (2023–24 and 2024–25), **real-world studies consistently demonstrated that vaccination conferred protection against RSV-related hospitalization and severe outcomes** in adults ≥60 years[1-4]

VE was generally higher earlier after vaccination, with evidence of waning over time, particularly at ≥12 months post-vaccination[1-4]

Subgroup analyses, including among immunocompromised adults, generally showed lower VE than in the overall population but still supported benefit against serious RSV outcomes [1-4]

This slide includes data presented at congress that are not yet peer-reviewed.

RSV, respiratory syncytial virus; **VE**, vaccine effectiveness; **US**, United States.

1. Surie D, et al. *JAMA*. 2025;334(16):1442. **2.** Link-Gelles R, et al. *Open Forum Infect Dis*. 2026;13(Supplement_1):ofaf695.079; **3.** Tartof SY, et al. Vaccine Effectiveness of Abrysvo against Respiratory Syncytial Virus related Lower Respiratory Tract Disease Hospitalizations and Emergency Department Admissions over Two RSV Seasons—KPSC, October 2023–April 2025. Presented at IDWeek; October 20, 2025; Atlanta, GA; Oral Presentation #228; **4.** Bajema KL, et al. *JAMA Intern Med*. 2026;186(1):78; **5.** Hicks K, et al. Modeling the public health impact of RSV vaccination in U.S. adults ≥60 years using real-world effectiveness data. Poster presented at the ReSViNET 2026; February 17, 2026. Rome, Italy; Poster #394. **6.** US CDC. RSV Vaccine Guidance for Adults. Updated Feb 24, 2026. Accessed Apr 15, 2026. https://www.cdc.gov/rsv/hcp/vaccine-clinical-guidance/adults.html

© 2026 Moderna, Inc. All rights reserved.

moderna

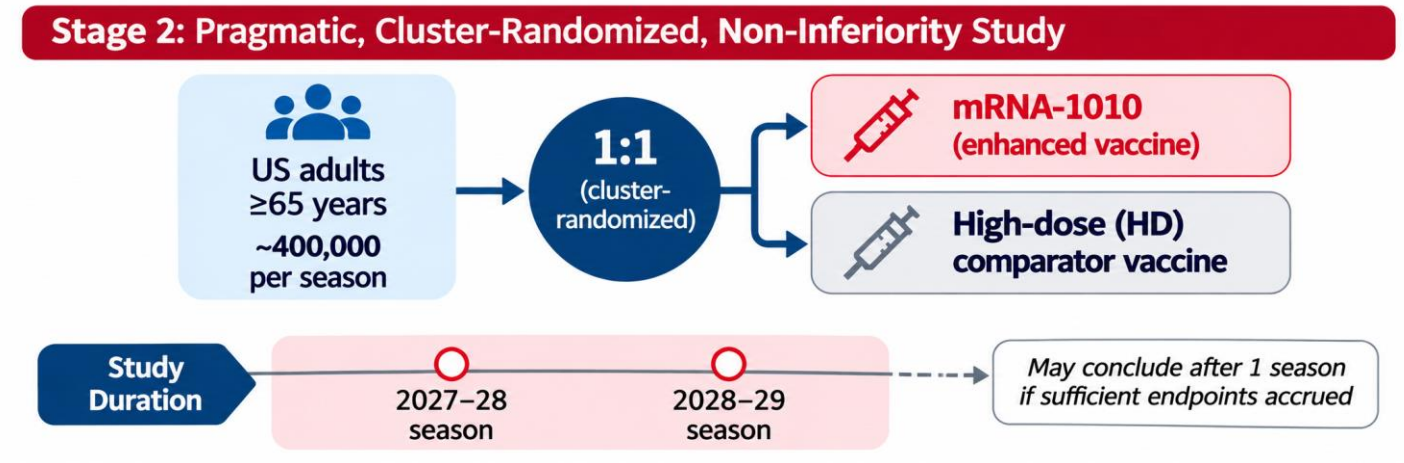
Influenza vaccine RWE trial design

mRNA-1010

© 2026 Moderna, Inc. All rights reserved.

Flu vaccine (mRNA-1010) real-world evidence study

Study Population	US adults ≥65 years
Stage 2	US adults ≥65 years ~400,000 per season
Randomization	1:1 (cluster-randomized)



Stage 2 Objectives

Primary objective

- Compare vaccine efficacy of mRNA-1010 vs. high-dose influenza vaccine against PCR-confirmed, medically attended influenza.

Secondary objectives

1. Compare relative vaccine efficacy (rVE) against PCR-confirmed influenza requiring urgent care, ED visits, and/or hospitalization (composite).
2. Compare rVE against PCR-confirmed influenza hospitalization.
3. Evaluate efficacy separately for influenza A and B.

© 2026 Moderna, Inc. All rights reserved.

Flu + COVID combination vaccine RWE trial design

mRNA-1083

© 2026 Moderna, Inc. All rights reserved.

DAN-COMBO study overview

Phase 4, Pragmatic, Individually-Randomized Trial (EUCT 2026-526720-49-00; NCT07790523)[1,2]

Data source
Leverages population-based administrative health registries in Denmark and the region of Galicia, Spain to enable comprehensive ascertainment of vaccination and clinically meaningful outcomes

Vaccination intake period
Conducted over two consecutive respiratory virus seasons (2026-27, 2027-28) to account for seasonal variation in virus circulation, vaccine composition, and effectiveness

Follow-up period
Effectiveness evaluated starting at Day 14 after vaccination, with follow-up through the end of the respiratory season through May of following year as primary analysis and through September of following year as additional sensitivity analyses

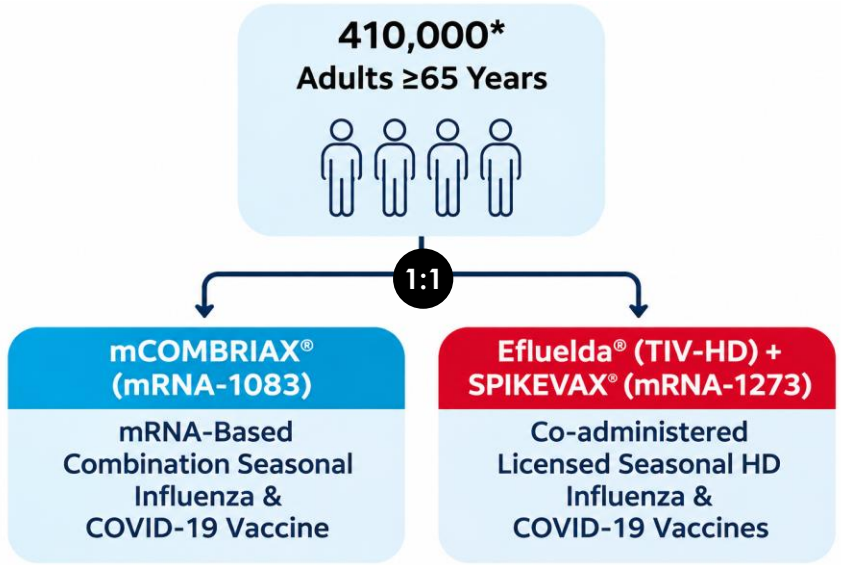
Eligibility
No specific exclusion criteria

Primary endpoints
Medically attended influenza and/or COVID-19; influenza and/or COVID-19 hospitalization

Secondary endpoints
Virus-specific assessments of medically attended illness and hospitalization; other endpoints important to decision-makers (e.g., cardiorespiratory outcomes, all-cause hospitalizations); healthcare resource utilizations

Safety Monitoring
Safety will be monitored through physician review of medical records for SAEs, including relatedness and expectedness, from vaccination through 6 weeks post-vaccination.

Study design
Pragmatic, individual- randomized, non-inferiority study



* Target sample size;

1. Clinical Trials Information System. EUCT 2026-526720-49-00. Accessed September 18, 2026. https://euclinicaltrials.eu/ctis-public/view/2026-526720-49-00
2. Clinicaltrials.gov. NCT07790523. Updated August 27, 2026. Published September 15, 2026. https://clinicaltrials.gov/study/NCT07790523

© 2026 Moderna, Inc. All rights reserved.

AI in annual strain update

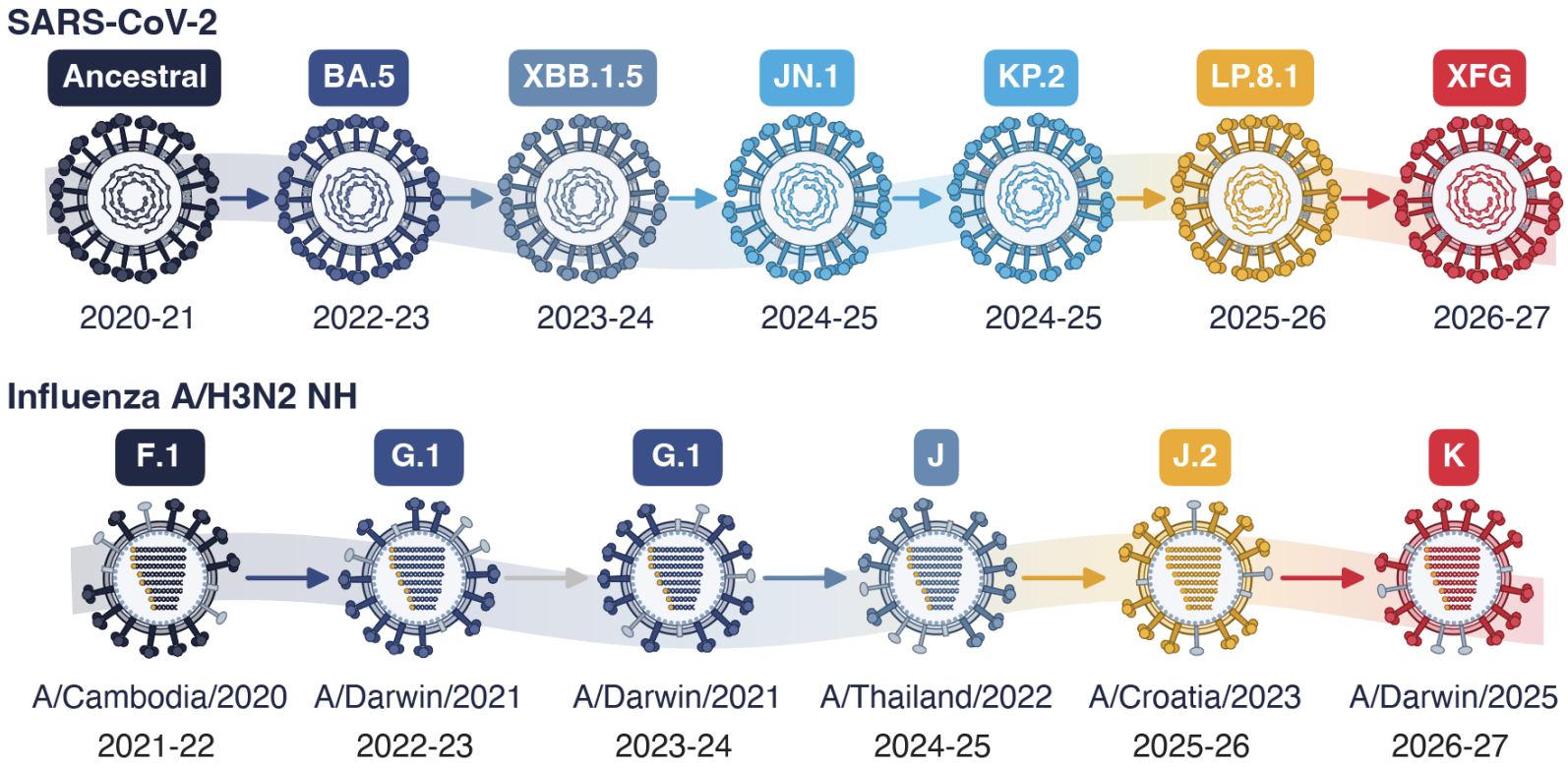
Bill Schief, Ph.D.

Vice President, Protein Design,
Infectious Disease Research

moderna

© 2026 Moderna, Inc. All rights reserved.

Rapid viral evolution creates a need for annual vaccine strain updates



We monitor viral evolution and assess vaccine strains continuously

4 SEASONAL VACCINES

5 ANTIGENS

- SPIKEVAX mRNA-1273
- mNEXSPIKE mRNA-1283
- mFLUSIVA mRNA-1010
- mCOMBRIAX mRNA-1083

© 2026 Moderna, Inc. All rights reserved.

moderna

Innovating seasonal vaccine updates from strain selection to manufacturing



Speed
Continuous monitoring and evaluation of emerging viral strains enables timely selection of the most relevant strain for each season



Precision
Sequence-based design enables antigen matching and rapid updates



Scalable manufacturing
Leverages our proven mRNA manufacturing platform and supply networks

Keeping pace with viral evolution to bring strain-matched vaccines to patients

© 2026 Moderna, Inc. All rights reserved.

Annual strain update is a company-wide effort

4 SEASONAL VACCINES **5** ANTIGENS

- SPIKEVAX mRNA-1273
- mNEXSPIKE mRNA-1283
- mFLUSIVA mRNA-1010
- mCOMBRIAX mRNA-1083

COVID typically updated annually; influenza updated twice yearly to reflect each hemisphere

1. Research
2. Technical development
3. Manufacturing & supply chain
4. Regulatory
5. Clinical/Medical
6. Commercial

© 2026 Moderna, Inc. All rights reserved.

mStrain surveillance platform distills thousands of circulating COVID-19 and influenza sequences into a few candidate vaccine strains

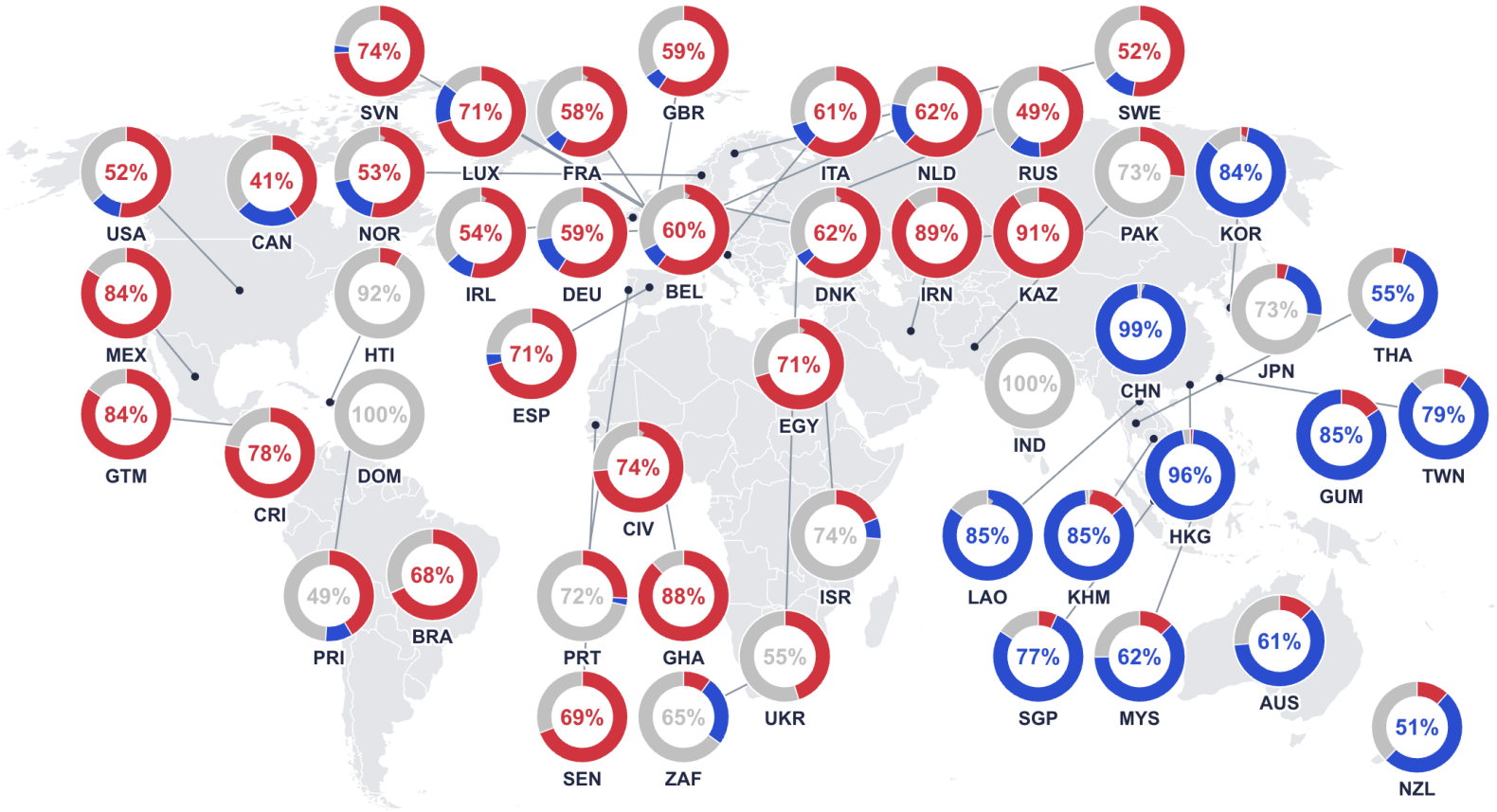


© 2026 Moderna, Inc. All rights reserved.

mStrain surveillance reveals geographic distributions of circulating viruses

Provides one input in our monitoring of potential need for regional vaccines

Example: Circulating COVID-19 viral strains



XFG-like viruses

NB.1.8.1-like viruses

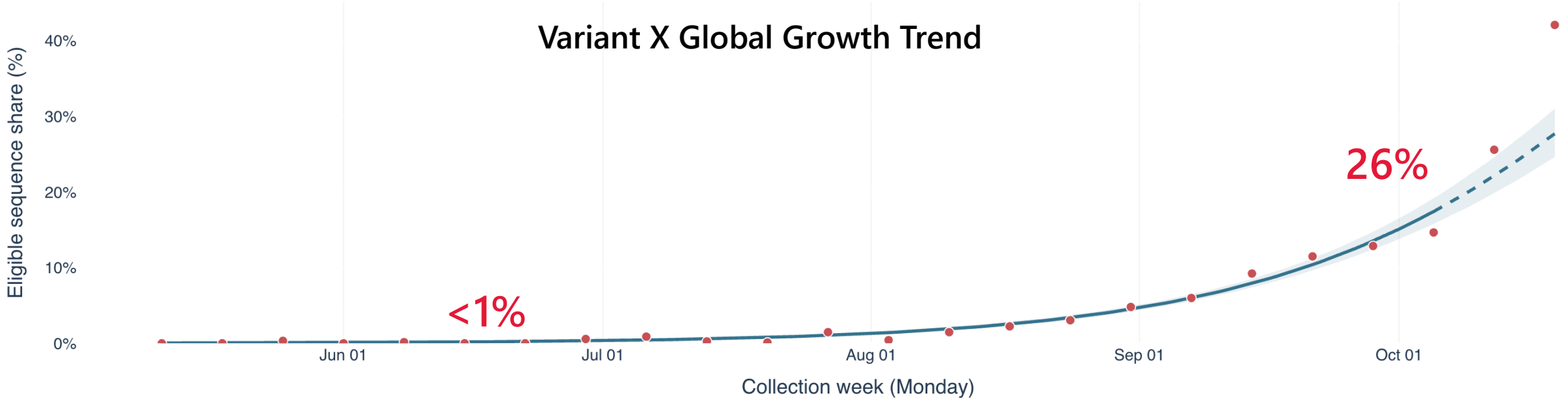
Other

Source: mSTRAIN and public sources

© 2026 Moderna, Inc. All rights reserved.

moderna

Tracking and modeling variant growth enables early identification of variants of concern



Growth ranking

1st

Growth advantage

35%

Doubling time

4 weeks

© 2026 Moderna, Inc. All rights reserved.

Immune-escape risk calculator informs COVID strain selection

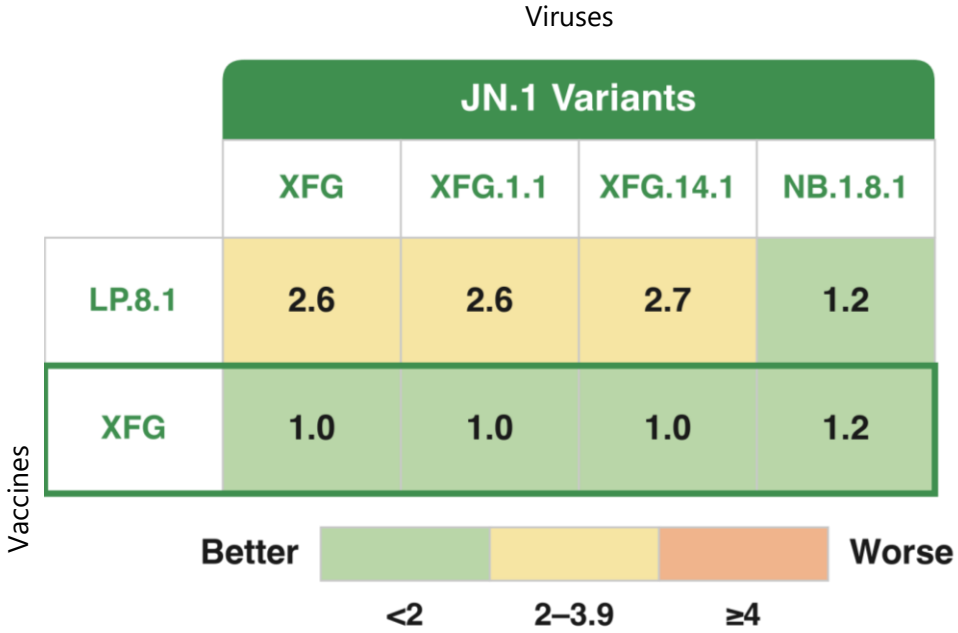
Machine-learning model predicts how strongly a given virus will escape from neutralizing antibodies induced by a given vaccine

Method validated prospectively across four seasons

Season	Vaccine antigen	New Variant	Predicted escape	Measured escape
2023-24	Ancestral + BA.5	XBB.1.5	9.29	11.25
2024-25	XBB.1.5	JN.1	5.81	5.82
2025-26	JN.1	KP.2	1.82	1.78
		LP.8.1	2.97	2.35
2026-27	LP.8.1	XFG	2.62	2.07

Escape = Fold-drop in neutralizing antibody titer versus the vaccine-matched variant.

Example predicted escape by different viruses for 2 different vaccines



[1]Nasir et al. *J. Virol.* 2026.

© 2026 Moderna, Inc. All rights reserved.

moderna

Agentic AI and wet lab analyses rapidly evaluate vaccine antigens for emerging strains

mStrain surveillance

Update the variant watchlist

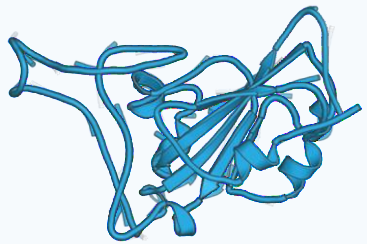
AGENTIC AI

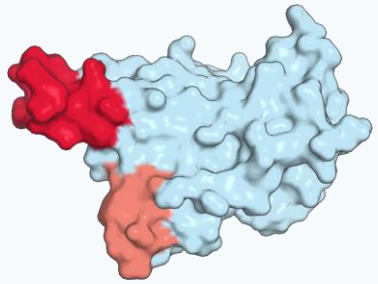
Structure

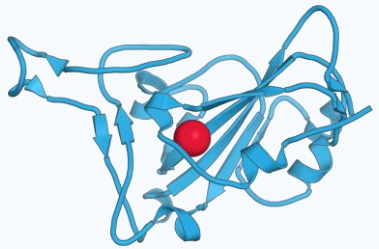
Metrics

Design alternates









WET LAB



Vaccine synthesis

Experimental evaluation

© 2026 Moderna, Inc. All rights reserved.

moderna

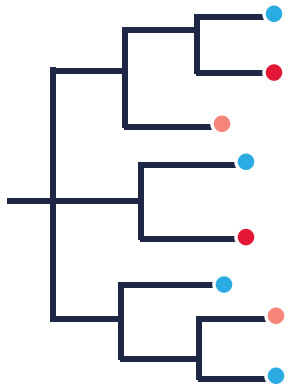
We are collecting high-throughput data and building custom-trained AI models for rapid antigen assessment and adjustment

Collaboration with Lila Sciences

INPUT: PHYLOGENETIC SELECTION

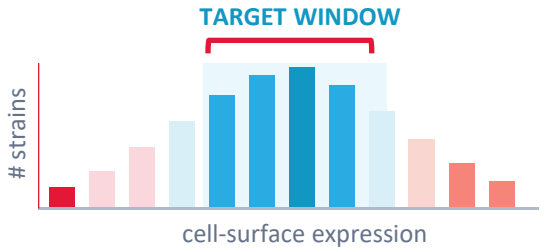
740

natural COVID strains



broad evolutionary coverage

1 Measure mRNA-1283 expression profile



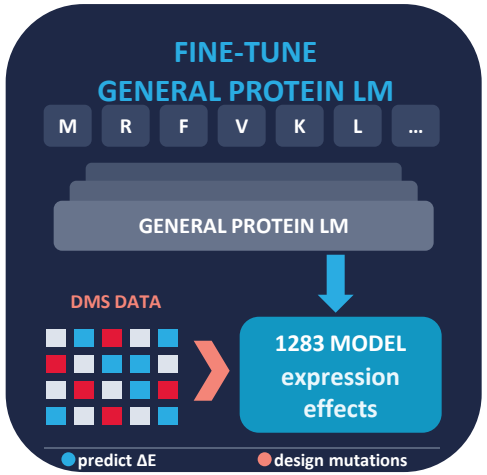
2 Measure effects of all mutations across diverse strains



"Deep mutational scanning (DMS)"
Measure for many strains

3 Build custom AI models

link mutation → expression / folding



Experiments to discover expression window and identify cross-strain mutations to adjust expression up or down

New AI models for antigen assessment and adjustment

Example shown for mRNA-1283

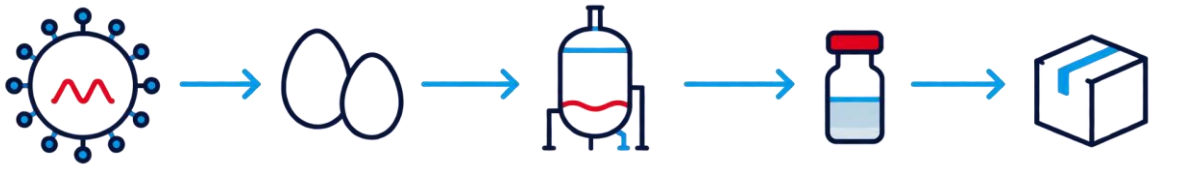
© 2026 Moderna, Inc. All rights reserved.

moderna

By combining mRNA technology with our ASU process, we aim to reduce the time from flu strain selection to vaccine supply to 2–3 months

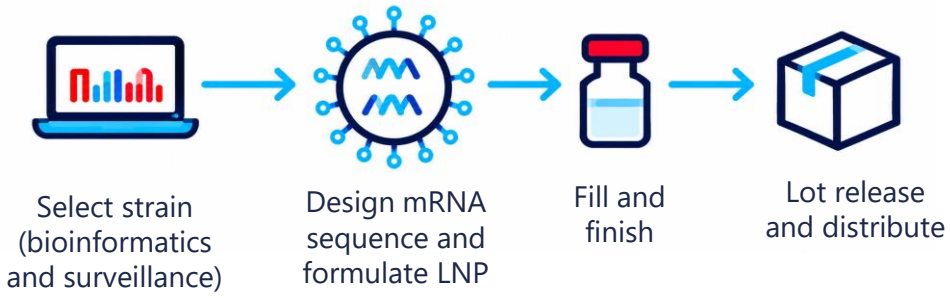
Traditional egg-based manufacturing

~6 - 8 months from strain selection to supply



Moderna mRNA manufacturing platform

~2 - 3 months from strain selection to supply



Additional advantages of mRNA technology

- Eliminates the need to grow influenza virus in eggs
- Avoids egg-adaptive mutations that can alter the viral antigen

© 2026 Moderna, Inc. All rights reserved.

Oncology therapeutics

David Berman, M.D., Ph.D.
Chief Development Officer

moderna

© 2026 Moderna, Inc. All rights reserved.

Therapeutics

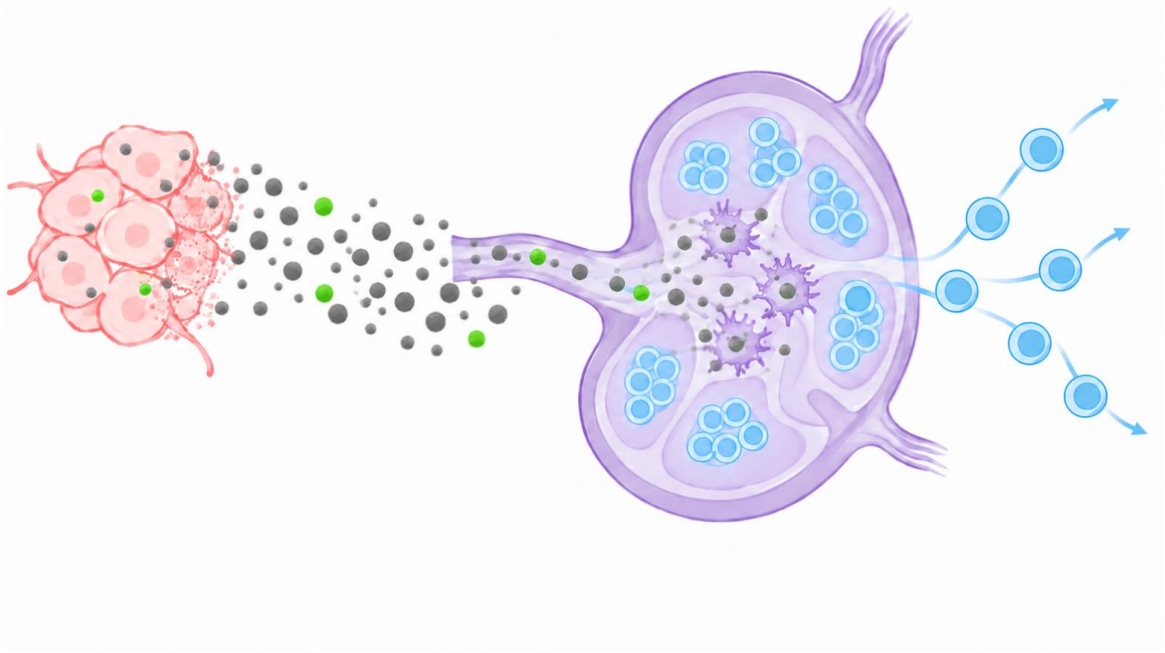
Intismeran: Advancing individualized cancer immunotherapy

© 2026 Moderna, Inc. All rights reserved.

Immune surveillance controls emerging cancer cells

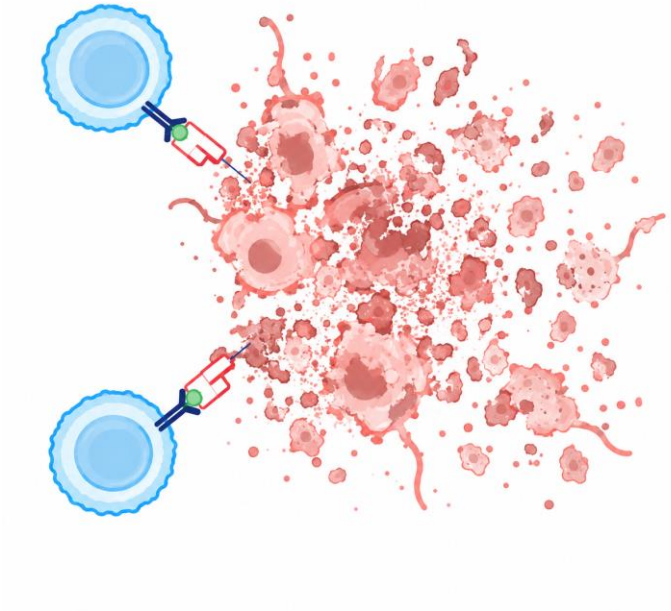
Immune system detects cancer antigens (neoantigens)

Neoantigens drain to lymph node and are presented by antigen presenting cells (APC) to T cells



Activated T cells eliminate cancer

Neoantigen-reactive T cells are activated and target the cancer



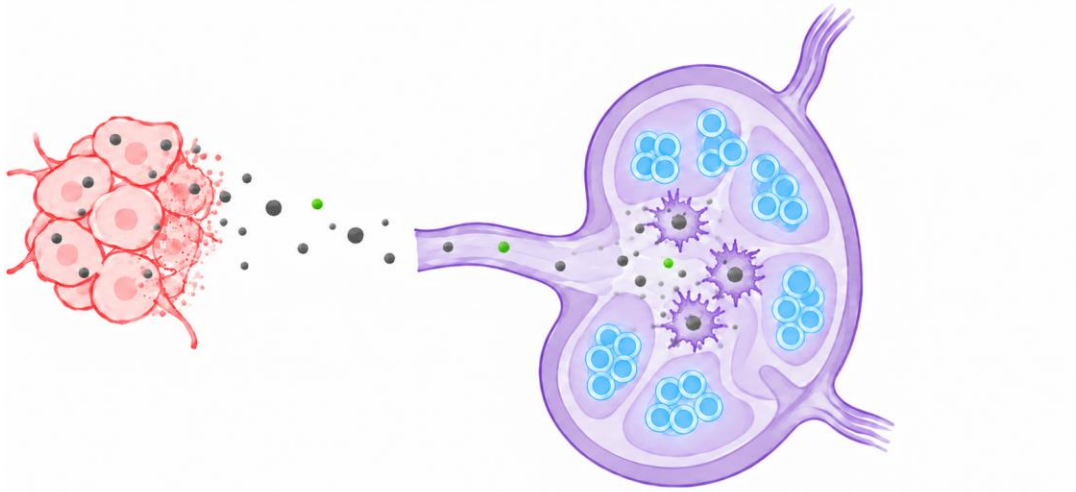
Gavin P., et al. 2004. The Three Es of Cancer Immunoediting. *Annual Review of Immunology* 22:329-360.

© 2026 Moderna, Inc. All rights reserved.

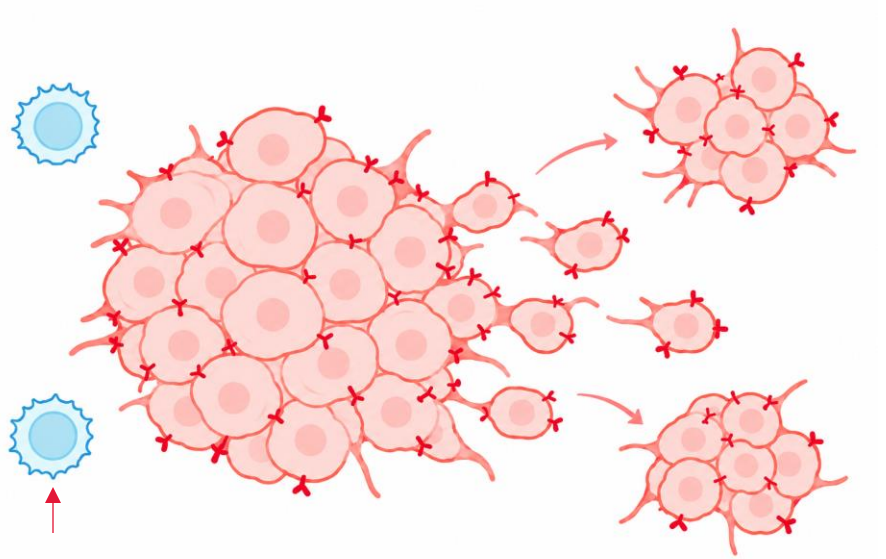
moderna

Cancers can escape immune surveillance when…

APCs do not activate T cells
Insufficient neoantigen processing, presentation, or T cell activation



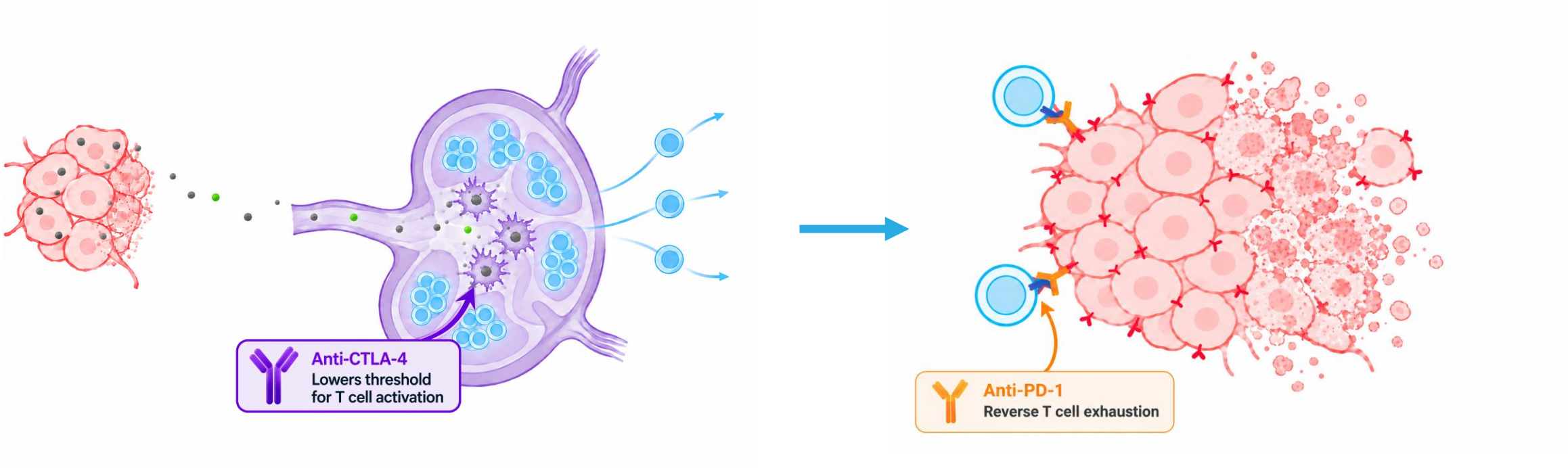
T cells become exhausted
e.g. PD1/PDL1



Exhausted T cells

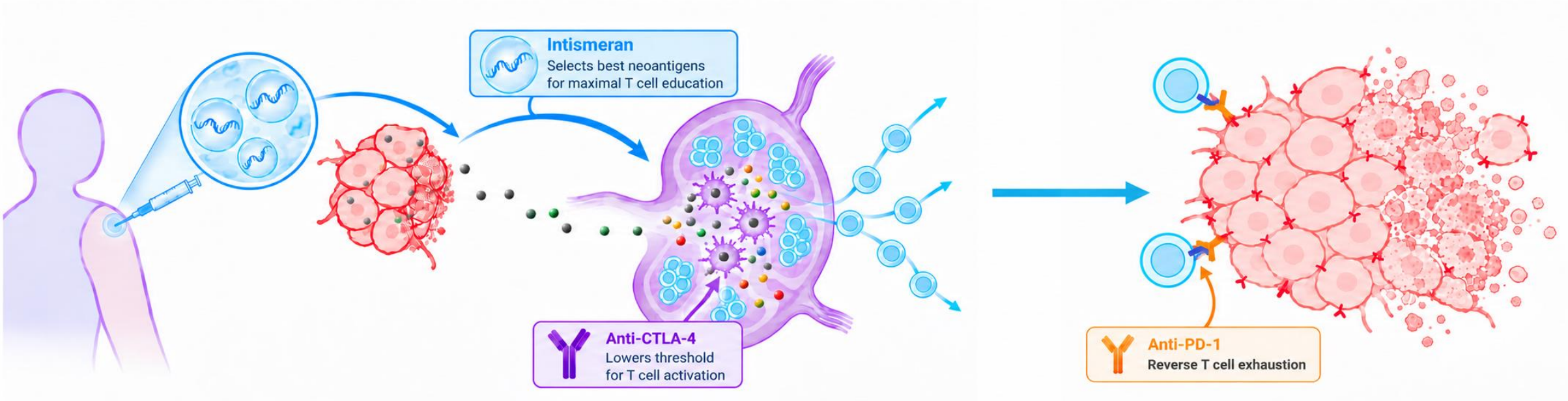
© 2026 Moderna, Inc. All rights reserved.

Checkpoints act on T cells, but are limited by available neoantigens



© 2026 Moderna, Inc. All rights reserved.

Intismeran optimizes neoantigen presentation

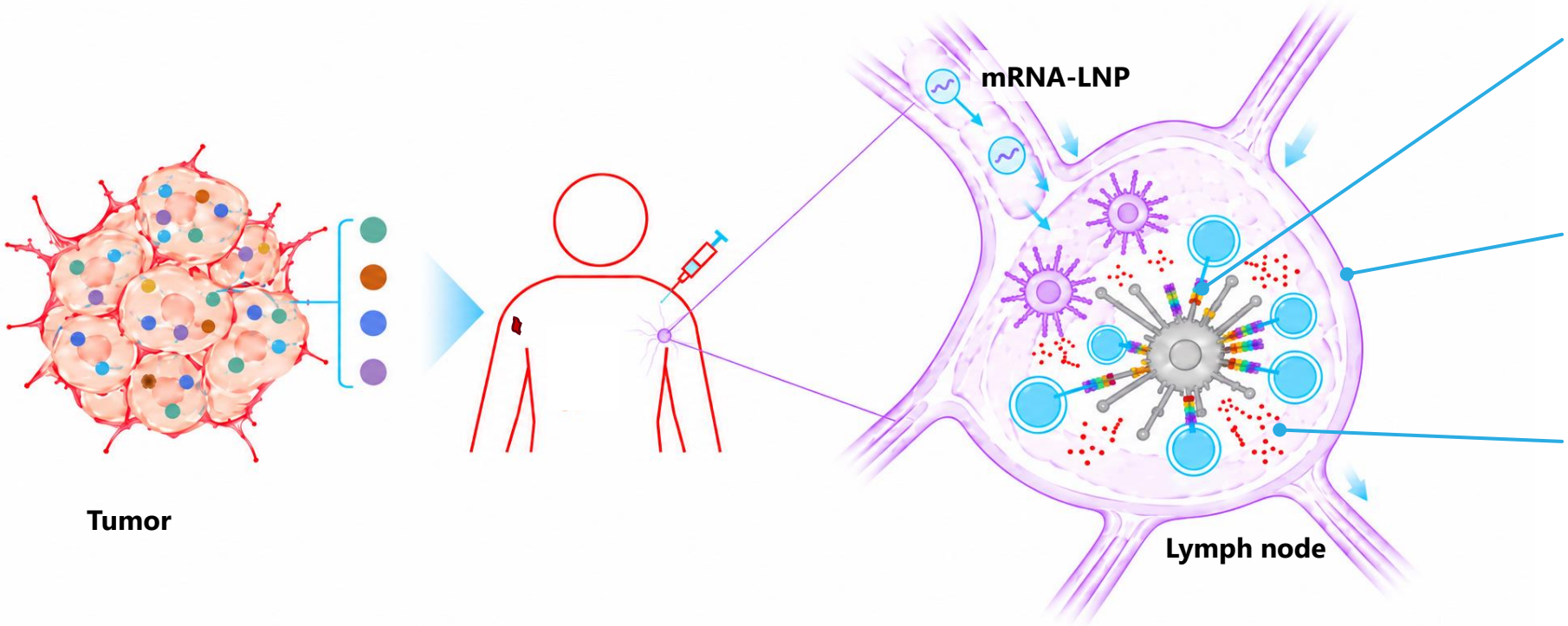


© 2026 Moderna, Inc. All rights reserved.

How intismeran activates tumor-specific T cells

1 Algorithm selects most promising neoantigens

2 mRNA-LNP delivers neoantigens to APCs in lymph node



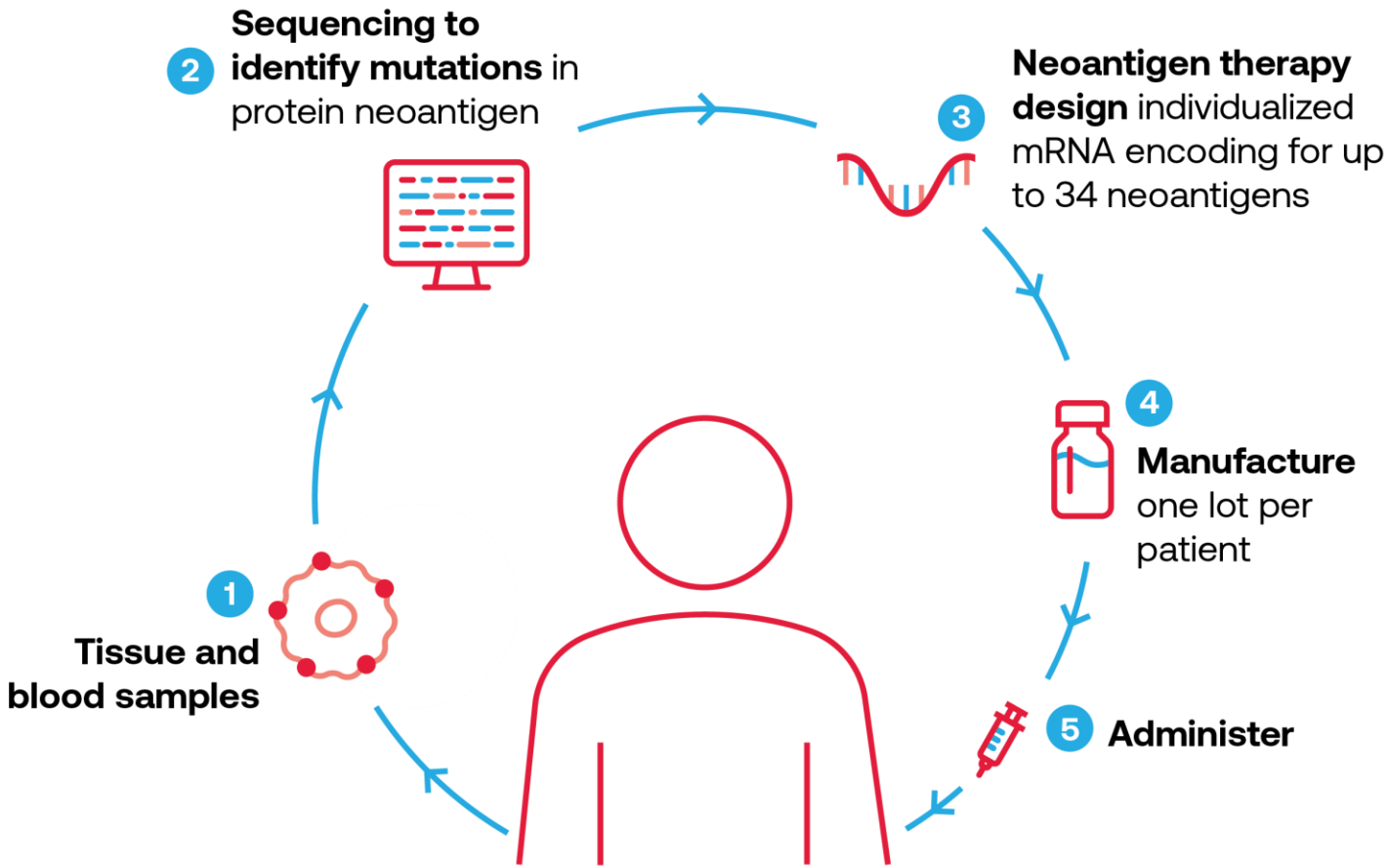
High neoantigen expression
Neoantigen-derived peptides *produced and presented* in antigen presenting cell

Optimal environment
Activation in lymph node *away from* immunosuppressive tumor microenvironment

Polyfunctional T cells
Cytokines support *CD4+ and CD8+ T-cell* proliferation, differentiation, and acquisition of effector functions

© 2026 Moderna, Inc. All rights reserved.

Intismeran autogene is the most advanced individualized neoantigen therapy in development



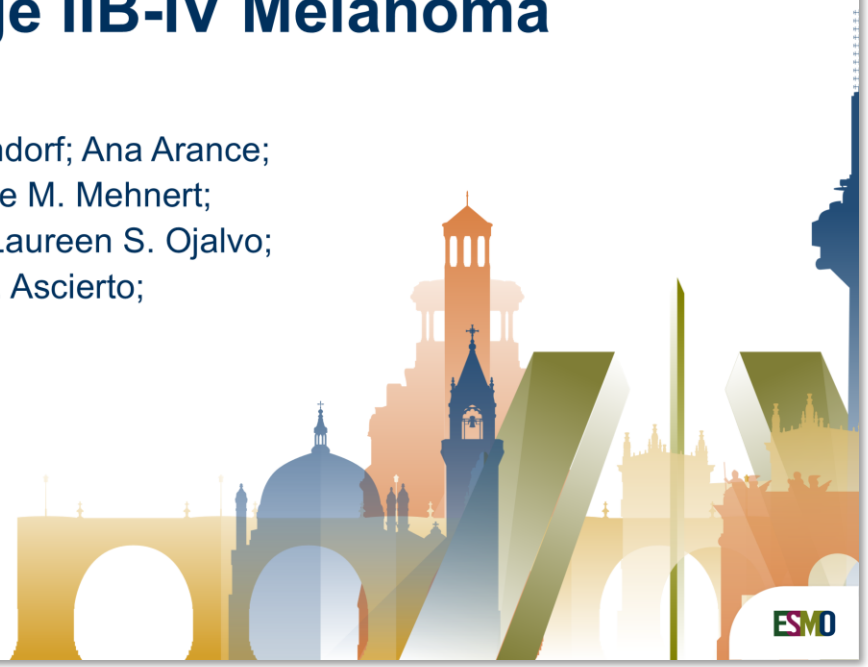
Intismeran consists of an **mRNA that encodes neoantigens designed specifically to each individual patient's tumor** mutanome and human leukocyte antigen (HLA) type

© 2026 Moderna, Inc. All rights reserved.

MADRID 2026 ESMO congress

INTerpath-001: Phase 3 Study of the mRNA-Based Individualized Neoantigen Therapy (INT) Intismeran Autogene plus Pembrolizumab vs Pembrolizumab Alone for Adjuvant Treatment of Resected Stage IIB-IV Melanoma

Georgina V. Long; Muhammad A. Khattak; Helen J. Gogas; Dirk Schadendorf; Ana Arance; Matteo S. Carlino; Piotr Rutkowski; Gareth Rivalland; Antoni Ribas; Janice M. Mehnert; Patrick A. Ott; Reinhard Dummer; Paola Queirolo; Christoffer Gebhardt; Laureen S. Ojalvo; Jinchun Zhang; Dmitri O. Grebennik; Mizuho Fukunaga-Kalabis; Paolo A. Ascierto; Michele Del Vecchio on behalf of the INTerpath-001 Investigators

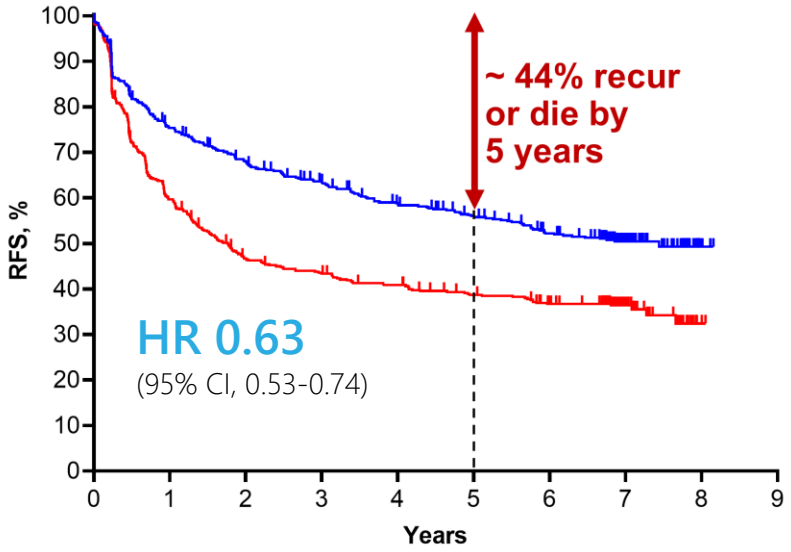


moderna

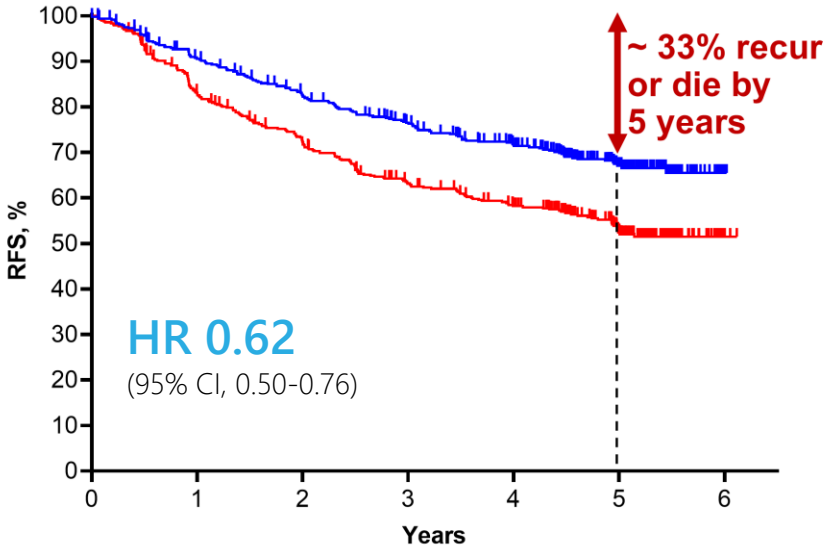
© 2026 Moderna, Inc. All rights reserved.

Despite RFS and DMFS benefit for adjuvant PD-1 inhibition in Phase 3 melanoma trials, many patients have recurrence

EORTC-1325/KEYNOTE-054[1]
Pembrolizumab vs placebo, stage III



KEYNOTE-716[2]
Pembrolizumab vs placebo, stage IIB/IIC



[1]Eggermont AMM et al. *Eur J Cancer* 2024;211:114327. [2]Luke JJ et al. *Ann Oncol* 2025;36:abstr 1611P. [3]Eggermont AMM et al. *N Engl J Med* 2018;378:1789–1801. [4]Eggermont AMM et al. *Lancet Oncol* 2021;22:643–54. [5]Luke JJ et al. *Lancet* 2022;399:1718–29. [6]Long GV et al. *Lancet Oncol* 2022;23:1378–88. [7]Weber J et al. *N Engl J Med* 2027;377:1824–35. [8]Ascierto PA et al. *Lancet Oncol* 2020;21:1465–77. [9]Kirkwood JM et al. *Nat Med* 2023;29:2835–43. [10]Ascierto PA et al. *N Engl J Med* 2026;394:333–42.

Presented by: Georgina V. Long, Melanoma Institute Australia
Content of this presentation is copyright and responsibility of the author. Permission is required for re-use.

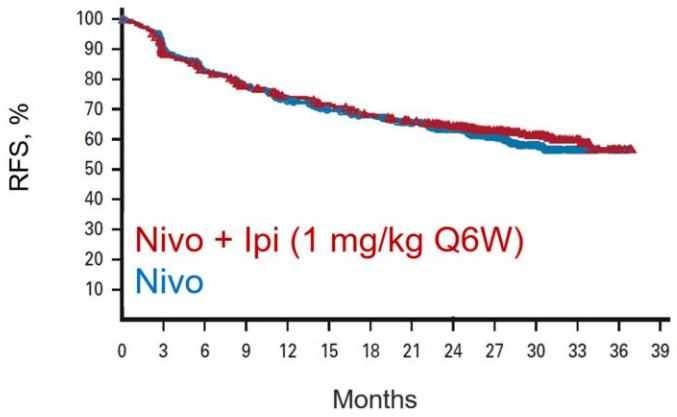
© 2026 Moderna, Inc. All rights reserved.

Dual checkpoint blockade in the adjuvant setting has failed to improve efficacy while increasing toxicity in Phase 3 trials

CheckMate 915[1]

RFS: HR 0.92 P = 0.269

Grade 3-4 TRAEs: 32.6% vs 12.8%

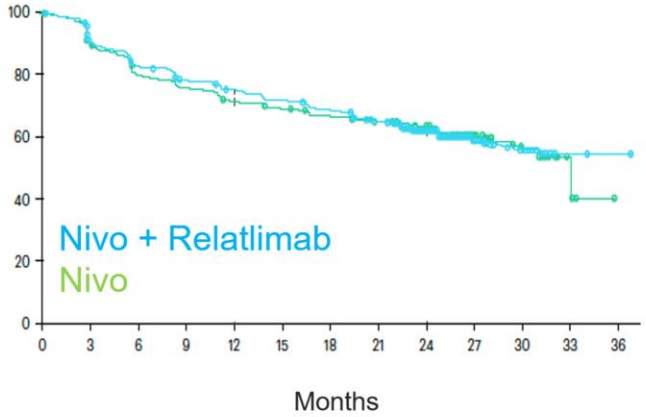


PD-1 + CTLA-4

RELATIVITY-098[2]

RFS: HR 1.01 P = 0.928

Grade 3-4 TRAEs: 19.0% vs 8.4%

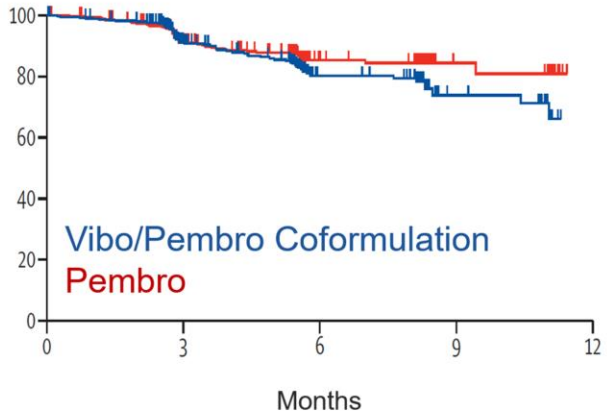


PD-1 + LAG3

KEYVIBE-010[3]

RFS: HR 1.25 (95% CI 0.9-1.8)

Grade 3-5 TRAEs: 16% vs 7%



PD-1 + TIGIT

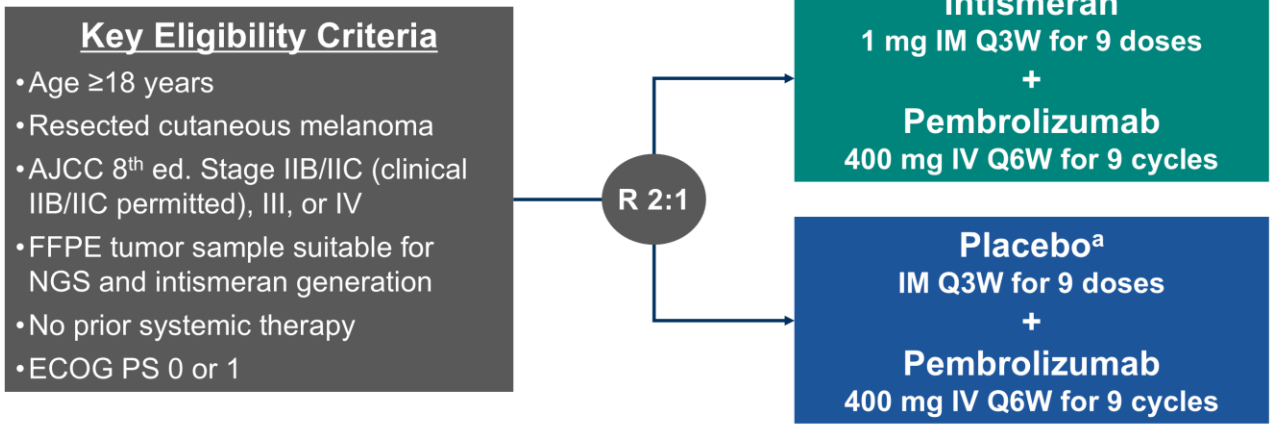
[1]Weber JS et al. *J Clin Oncol* 2023;41:517–27. [2]Long GV et al. *Nat Med* 2025;31:4301–9. [3]Dummer R et al. *Lancet Oncol* 2026;27:327–39.

Presented by: Georgina V. Long, Melanoma Institute Australia

Content of this presentation is copyright and responsibility of the author. Permission is required for re-use.

© 2026 Moderna, Inc. All rights reserved.

INTerpath-001: Randomized, double-blind, Phase 3 trial



Pembrolizumab

- Started at randomization, ≤13 weeks after resection

Intismeran

- Started upon availability to site
- Earliest: Cycle 1, day 22
- Latest: Cycle 4, day 1

Stratification factors

- **Risk-based stage** (IIB/IIC/IIIA/IIIB vs IIIC/IIID/IV)
- **Age** (<65 years vs ≥65 years)

Primary end point: RFS per investigator

Secondary end points: DMFS per investigator, OS, patient-reported outcomes, safety

[a]Normal saline or dextrose. Placebo was started at random to maintain the blind.
ClinicalTrials.gov identifier: NCT05933577.

Presented by: Georgina V. Long, Melanoma Institute Australia

Content of this presentation is copyright and responsibility of the author. Permission is required for re-use.

© 2026 Moderna, Inc. All rights reserved.

Predefined analysis populations

ITT: all randomized patients according to the arm they were assigned (primary population for efficacy analysis)

- Intismeran + pembrolizumab: N = 757
- Placebo + pembrolizumab: N = 380

mITT: all patients who received intismeran or placebo as planned[a] (supportive population for efficacy analysis)

- Intismeran + pembrolizumab: N = 726[a]
- Placebo + pembrolizumab: N = 365[b]

As-treated: all patients who received at least one dose of study treatment (safety analysis population)

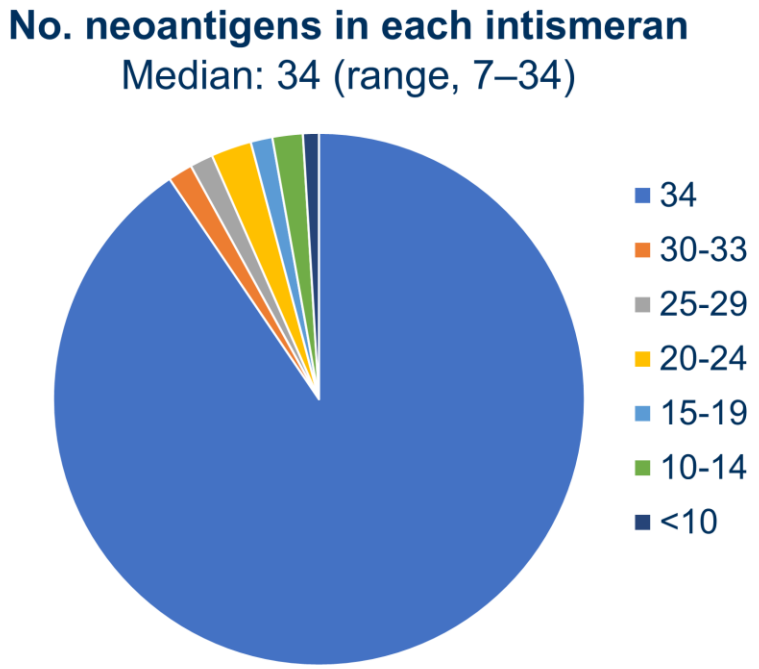
- Intismeran + pembrolizumab: N = 755
- Placebo + pembrolizumab: N = 380[c]

[a]Reasons for exclusion from mITT population were AEs (n=13), recurrence/relapse (n=10), and other (n=8). [b]Reasons for exclusion from mITT population were AEs (n=5), recurrence/relapse (n=4), and other (n=6). [c]Includes the 379 patients assigned to placebo + pembrolizumab who received at least one dose of study treatment plus the one patient assigned to intismeran + pembrolizumab who received placebo to maintain the blind when intismeran could not be manufactured by cycle 4, day 1.

© 2026 Moderna, Inc. All rights reserved.

Intismeran design, manufacture[a], and exposure

- 91% of the 1137 randomized patients had the maximum 34 neoantigens identified for intismeran design
- 99% of the 757 patients in the intismeran + pembrolizumab arm had their intismeran successfully manufactured
- Median time to first intismeran dose was 64 days
- Median number of intismeran doses was 9[b]



[a]Intismeran was designed for all randomized patients. The manufacturing workflow was initiated when it was known that a patient was randomized to the intismeran + pembrolizumab arm.
[b]The median number of placebo administrations and pembrolizumab cycles was also 9.

Presented by: Georgina V. Long, Melanoma Institute Australia
Content of this presentation is copyright and responsibility of the author. Permission is required for re-use.

© 2026 Moderna, Inc. All rights reserved.

Baseline characteristics

	Intismeran + pembrolizumab (N = 757)	Placebo + pembrolizumab (N = 380)
Age, median (range)	61.0 y (18–89)	61.5 y (18–88)
Male sex, n (%)	456 (60.2)	227 (59.7%)
Race, n (%)		
Asian	15 (2.0)	13 (3.4)
Multiple	5 (0.7)	4 (1.1)
White	696 (91.9)	337 (88.7)
Other	10 (1.3)[a]	4 (1.1)[b]
Missing	31 (4.1)	22 (5.8)
Geographic region, n (%)		
Australia	89 (11.8)	39 (10.3)
Europe	415 (54.8)	209 (55.0)
Latin America	45 (5.9)	22 (5.8)
United States	84 (11.1)	35 (9.2)
Rest of world	124 (16.4)	75 (19.7)

	Intismeran + pembrolizumab (N = 757)	Placebo + pembrolizumab (N = 380)
ECOG PS 0, n (%)	697 (92.1)	350 (92.1)
Risk-based disease stage, n (%)		
IIB/IIC/IIIA/IIIB	441 (58.3)	230 (60.5)
IIIC/IIID/IV	316 (41.7)	150 (39.5)
Overall disease stage, n (%)		
IIA	1 (0.1)[c]	0
IIB	155 (20.5)	73 (19.2)
IIC	92 (12.2)	42 (11.1)
IIIA	50 (6.6)	32 (8.4)
IIIB	143 (18.9)	83 (21.8)
IIIC	245 (32.4)	118 (31.1)
IIID	10 (1.3)	4 (1.1)
IV	61 (8.1)	28 (7.4)

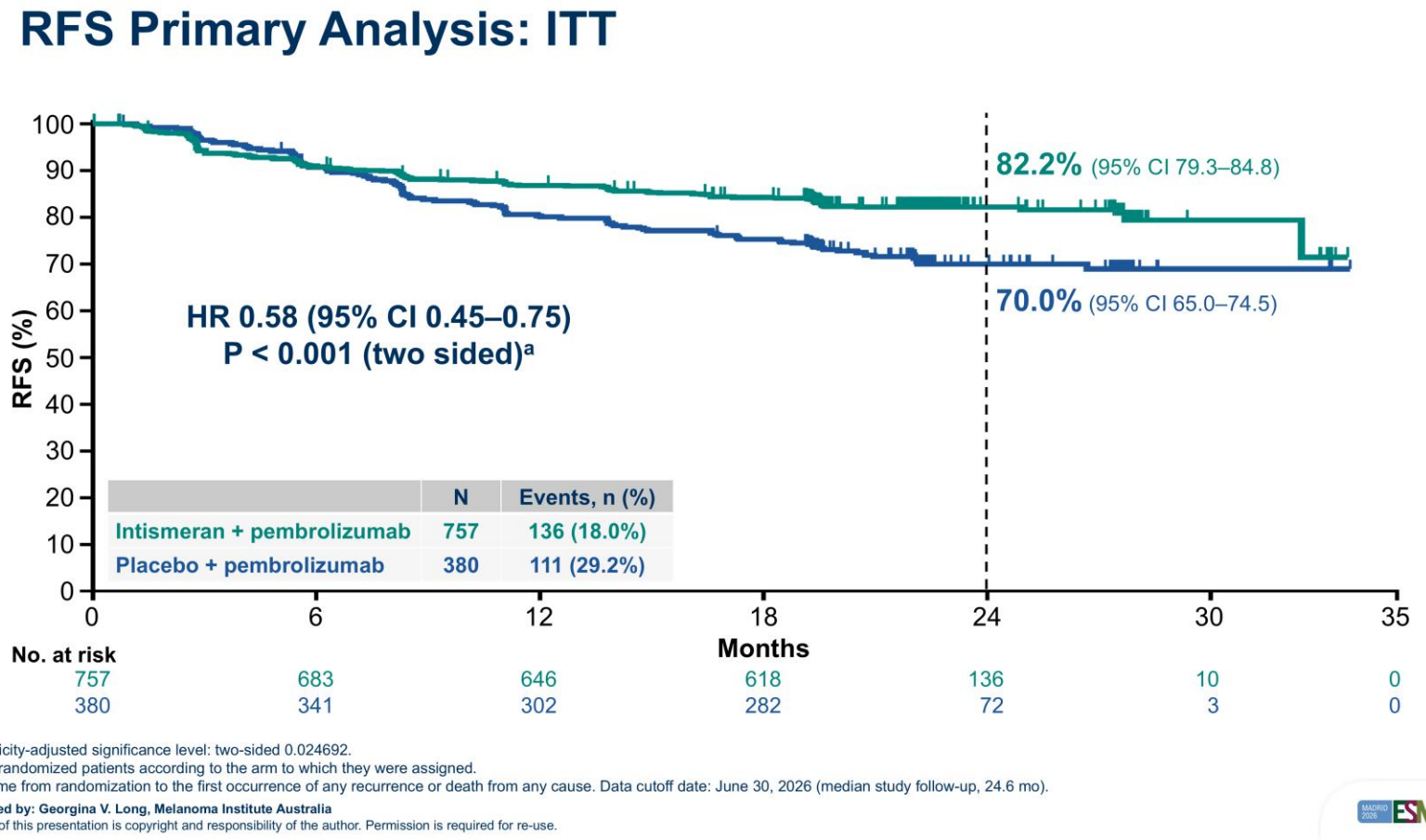
[a]Includes American Indian or Alaska Native (n = 5), Black or African American (n = 3), and Native Hawaiian or other Pacific Islander (n = 2). [b]Includes American Indian or Alaska Native (n = 3) and Black or African American (n = 1). [c]Protocol deviation.
ITT population: all randomized patients according to the arm to which they were assigned. Data cutoff date: June 30, 2026 (median study follow-up, 24.6 mo).

Presented by: Georgina V. Long, Melanoma Institute Australia

Content of this presentation is copyright and responsibility of the author. Permission is required for re-use.

© 2026 Moderna, Inc. All rights reserved.

Phase 3 results demonstrate a 42% reduction in the risk of recurrence or death



aMultiplicity-adjusted significance level: two-sided 0.024692.
ITT: all randomized patients according to the arm to which they were assigned.
RFS: time from randomization to the first occurrence of any recurrence or death from any cause. Data cutoff date: June 30, 2026 (median study follow-up, 24.6 mo).

Presented by: Georgina V. Long, Melanoma Institute Australia

Content of this presentation is copyright and responsibility of the author. Permission is required for re-use.

Key takeaways

First positive Phase 3 for therapeutic cancer vaccine

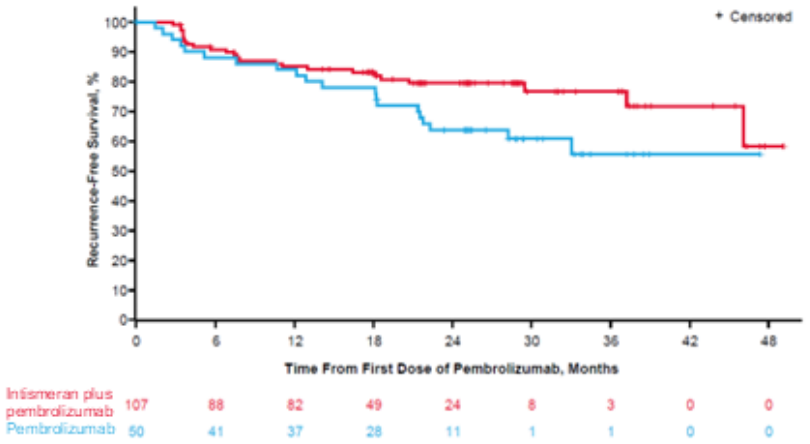
First positive Phase 3 versus anti-PD1 in adjuvant melanoma

a. Randomization stratification factors applied to all stratified analyses.

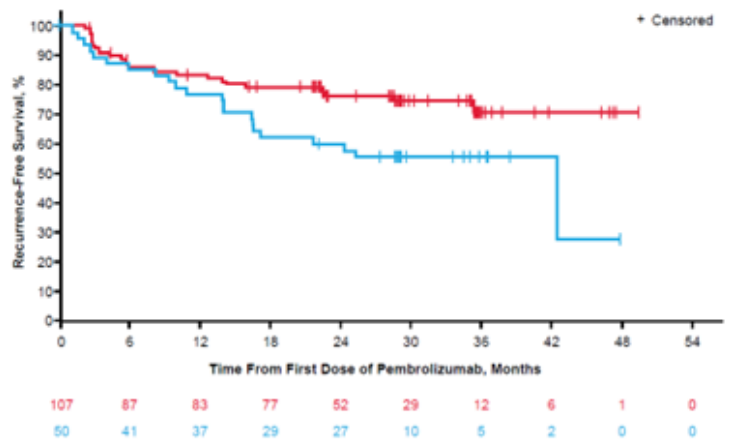
© 2026 Moderna, Inc. All rights reserved.

Phase 2 results demonstrate greater RFS benefit with longer follow-up

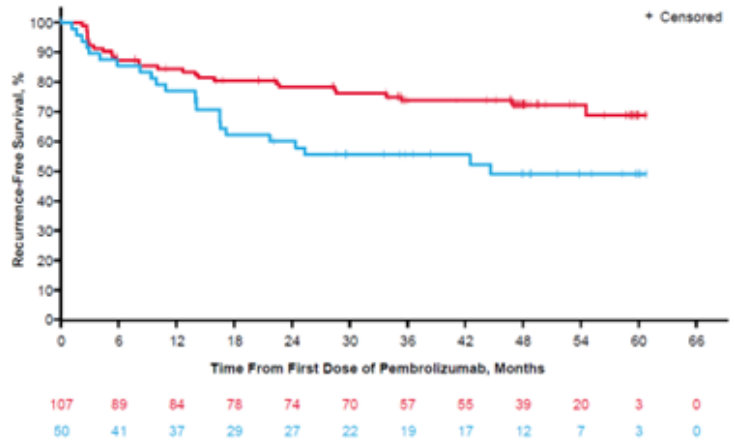
Primary analysis[1]



3-year analysis[2]



5-year analysis[3]

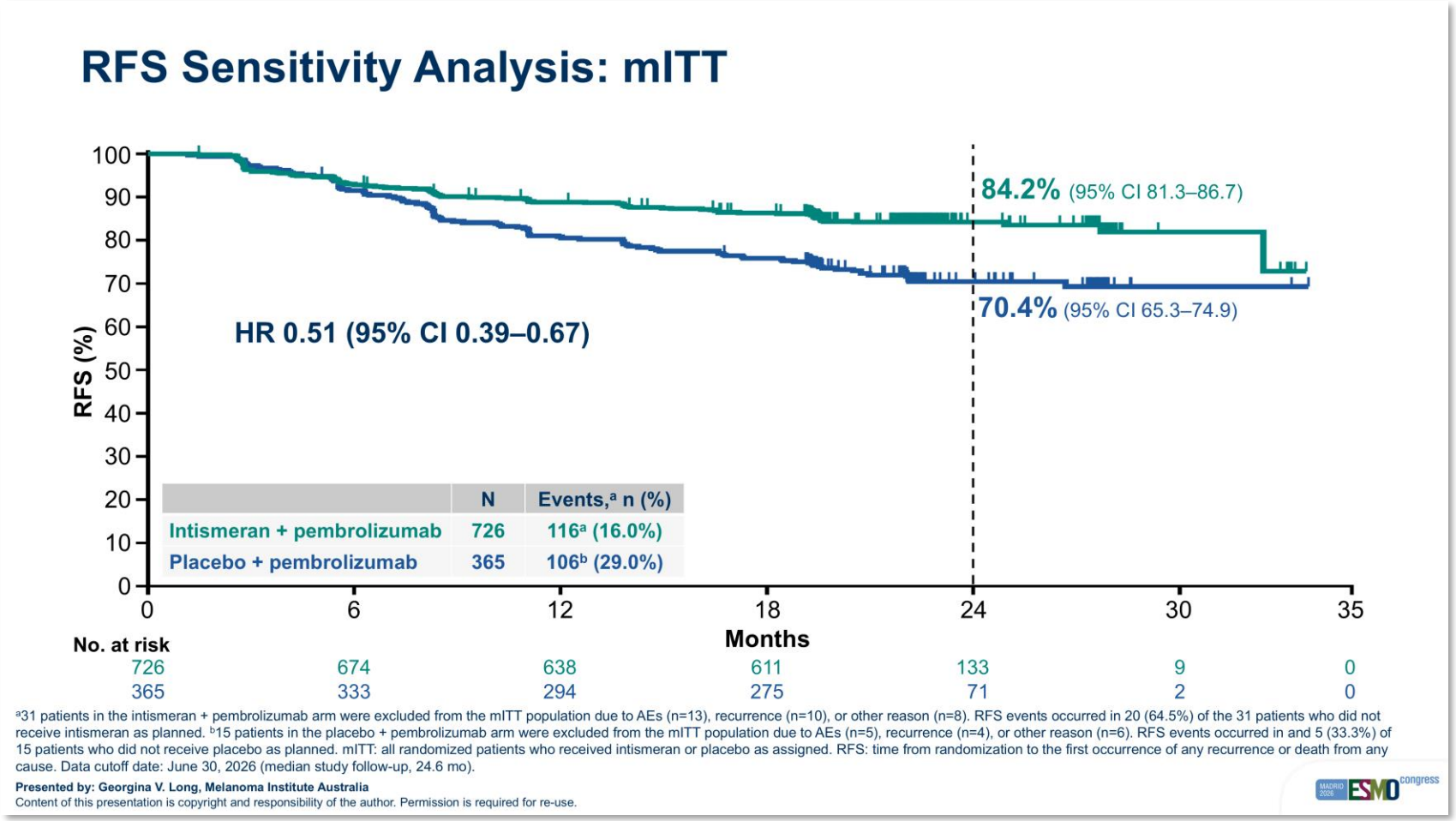


	Primary analysis	3-year follow-up	5-year follow-up
Phase 2	0.56 (median F/U: 23 months[4])	0.51 (median F/U: 34.9 months)	0.51 (median F/U: 60.3 months)
Phase 3	0.58 (median follow-up: 24.6 months)	TBD	TBD

1. https://irp.cdn-website.com/89dd0539/files/uploaded/MMA-75572-AACR-23-mRNA4157combined_version-2.pdf
2. https://irp.cdn-website.com/89dd0539/files/uploaded/asco-2024-adjuvant-melanoma.pdf
3. https://irp.cdn-website.com/89dd0539/files/uploaded/Intismeran+5-yr+Update+Oral+Presentation_ASCO_28May2026.pdf
4. Median follow-up: 23 months in active arm, 24 months in control arm

© 2026 Moderna, Inc. All rights reserved.

mITT analysis shows a greater RFS benefit among patients who received intismeran as planned



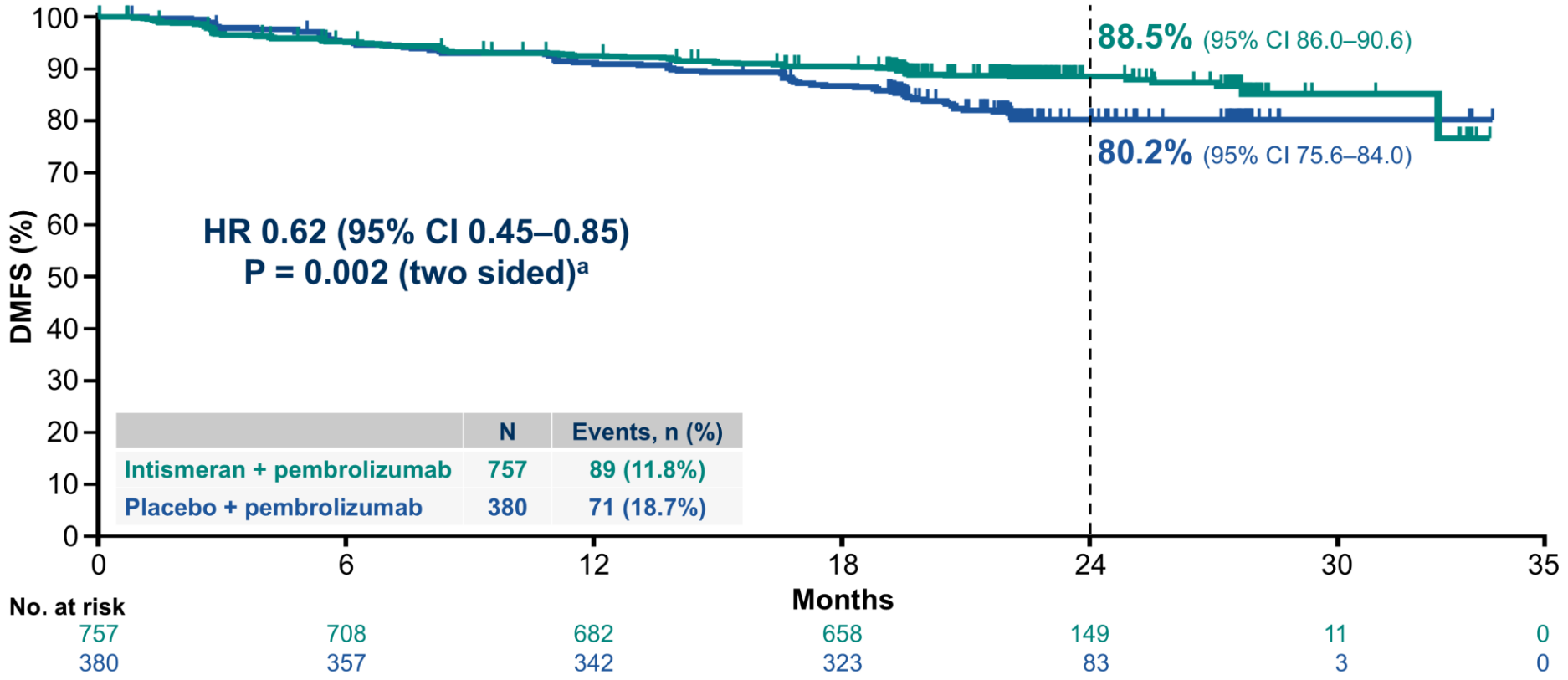
Key takeaways

mITT population excludes participants who did not receive at least one dose of intismeran or placebo as planned

a. Randomization stratification factors applied to all stratified analyses.

© 2026 Moderna, Inc. All rights reserved.

DMFS Primary Analysis: ITT



	N	Events, n (%)
Intismeran + pembrolizumab	757	89 (11.8%)
Placebo + pembrolizumab	380	71 (18.7%)

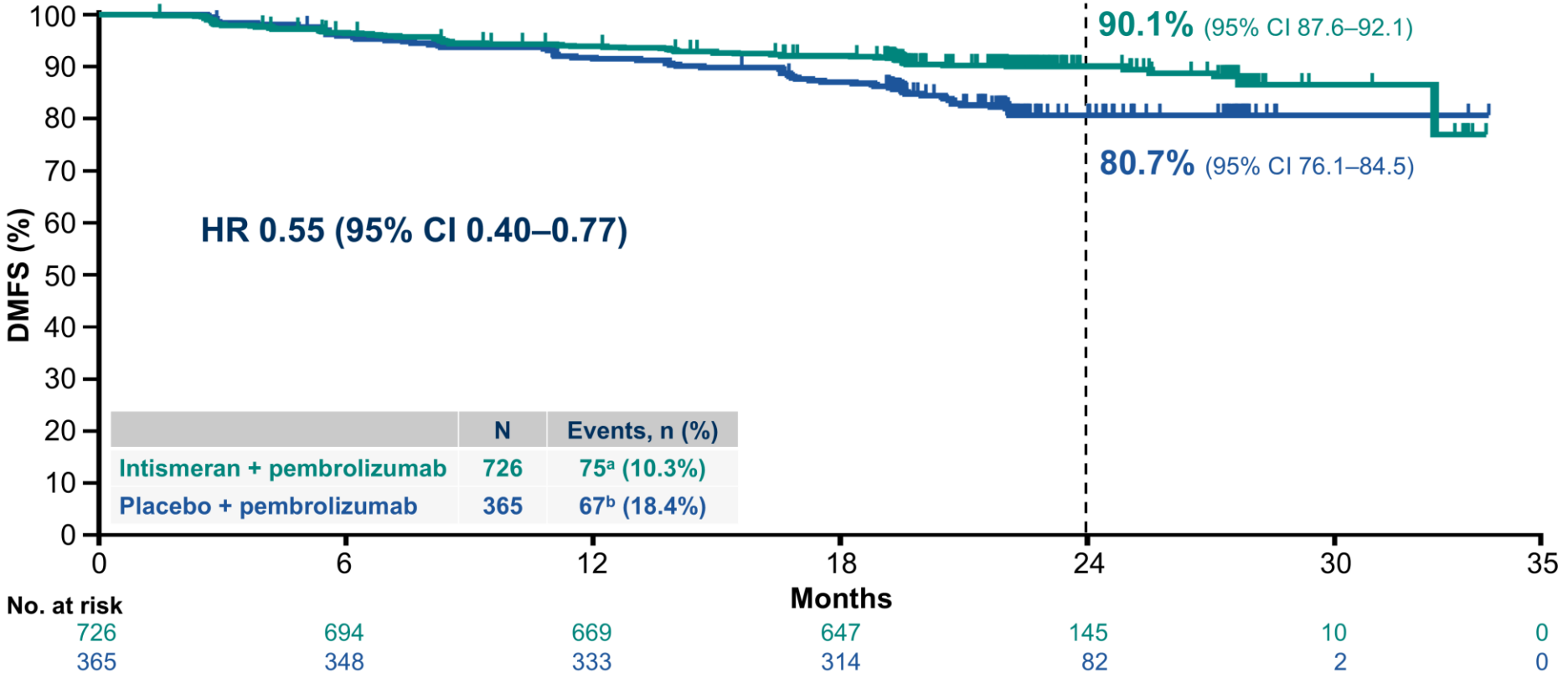
[a]Multiplicity-adjusted significance level: two-sided 0.01608.
ITT: all randomized patients according to the arm to which they were assigned.
DMFS: time from randomization to first occurrence of distant metastasis or death from any cause. Data cutoff date: June 30, 2026 (median study follow-up, 24.6 mo).

Presented by: Georgina V. Long, Melanoma Institute Australia

Content of this presentation is copyright and responsibility of the author. Permission is required for re-use.

© 2026 Moderna, Inc. All rights reserved.

DMFS Sensitivity Analysis: mITT



	N	Events, n (%)
Intismeran + pembrolizumab	726	75[a] (10.3%)
Placebo + pembrolizumab	365	67[b] (18.4%)

[a]DMFS events occurred in 14 (45.2%) of 31 patients who did not receive intismeran. [b]DMFS events occurred in 4 (26.7%) of 15 patients who did not receive placebo as planned.
mITT: all randomized patients who received intismeran or placebo as assigned.
DMFS: time from randomization to first occurrence of distant metastasis or death from any cause. Data cutoff date: June 30, 2026 (median study follow-up, 24.6 mo).

Presented by: Georgina V. Long, Melanoma Institute Australia

Content of this presentation is copyright and responsibility of the author. Permission is required for re-use.

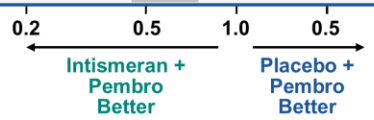
© 2026 Moderna, Inc. All rights reserved.

Efficacy in prespecified subgroups

RFS and DMFS benefits observed in most subgroups

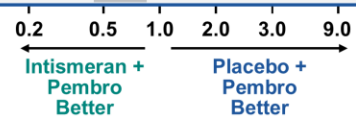
Recurrence-Free Survival

Subgroup	Intismeran + Pembro Events/Patients	Placebo + Pembro Events/Patients	Hazard Ratio (95% CI)
All patients	136/757	111/380	0.58 (0.45–0.75)
Age			
<65 yr	79/458	61/230	0.65 (0.47–0.91)
≥65 yr	57/299	50/150	0.53 (0.36–0.77)
Sex			
Female	57/301	40/153	0.71 (0.47–1.06)
Male	79/456	71/227	0.54 (0.39–0.74)
Geographic region			
Australia	16/89	12/39	0.54 (0.26–1.15)
Europe	70/415	54/209	0.64 (0.45–0.92)
Latin America	15/45	9/22	0.85 (0.37–1.95)
United States	12/84	10/35	0.50 (0.22–1.16)
Rest of world	23/124	26/75	0.50 (0.29–0.89)
ECOG PS			
0	120/697	97/350	0.61 (0.47–0.80)
1	16/60	14/30	0.48 (0.24–0.99)
Risk-based disease stage			
IIB/IIC/IIIA/IIIB	59/440	50/230	0.60 (0.41–0.88)
IIIC/IIID/IV	77/316	61/150	0.57 (0.41–0.79)



Distant Metastasis-Free Survival

Subgroup	Intismeran + Pembro Events/Patients	Placebo + Pembro Events/Patients	Hazard Ratio (95% CI)
All patients	89/757	71/380	0.62 (0.45–0.85)
Age			
<65 yr	47/458	37/230	0.65 (0.42–0.99)
≥65 yr	42/299	34/150	0.61 (0.39–0.95)
Sex			
Female	31/301	27/153	0.58 (0.34–0.97)
Male	58/456	44/227	0.66 (0.44–0.97)
Geographic region			
Australia	12/89	11/39	0.42 (0.19–0.96)
Europe	42/415	34/209	0.63 (0.40–0.99)
Latin America	11/45	9/22	0.62 (0.26–1.49)
United States	8/84	2/35	1.77 (0.38–8.35)
Rest of world	16/124	15/75	0.63 (0.31–1.28)
ECOG PS			
0	77/697	60/350	0.65 (0.46–0.91)
1	12/60	11/30	0.47 (0.21–1.06)
Risk-based disease stage			
IIB/IIC/IIIA/IIIB	41/440	33/230	0.65 (0.41–1.02)
IIIC/IIID/IV	48/316	38/150	0.59 (0.39–0.91)



ITT: all randomized patients according to the arm to which they were assigned. Data cutoff date: June 30, 2026 (median study follow-up, 24.6 mo).

Presented by: Georgina V. Long, Melanoma Institute Australia

Content of this presentation is copyright and responsibility of the author. Permission is required for re-use.

© 2026 Moderna, Inc. All rights reserved.

Adverse event summary

	All-Cause AEs		Treatment-Related AEs	
	Intismeran + Pembrolizumab (N = 755)	Placebo + Pembrolizumab (N = 380)	Intismeran + Pembrolizumab (N = 755)	Placebo + Pembrolizumab (N = 380)
Any grade	742 (98.3)	366 (96.3)	723 (95.8)	342 (90.0)
Grade 3-5	178 (23.6)	77 (20.3)	107 (14.2)	51 (13.4)
Serious	133 (17.6)	60 (15.8)	74 (9.8)	42 (11.1)
Led to discontinuation of any drug	125 (16.6)	36 (9.5)	106 (14.0)	33 (8.7)
Discontinuation of pembrolizumab	115 (15.2)	36 (9.5)	97 (12.8)	33 (8.7)
Discontinuation of intismeran or placebo	66 (8.7)	21 (5.5)	54 (7.2)	19 (5.0)
Discontinuation of both drugs simultaneously	49 (6.5)	20 (5.3)	39 (5.2)	18 (4.7)
Led to death (none related to intismeran)	8 (1.1)	0	2 (0.3)	0

Grade 5 AEs

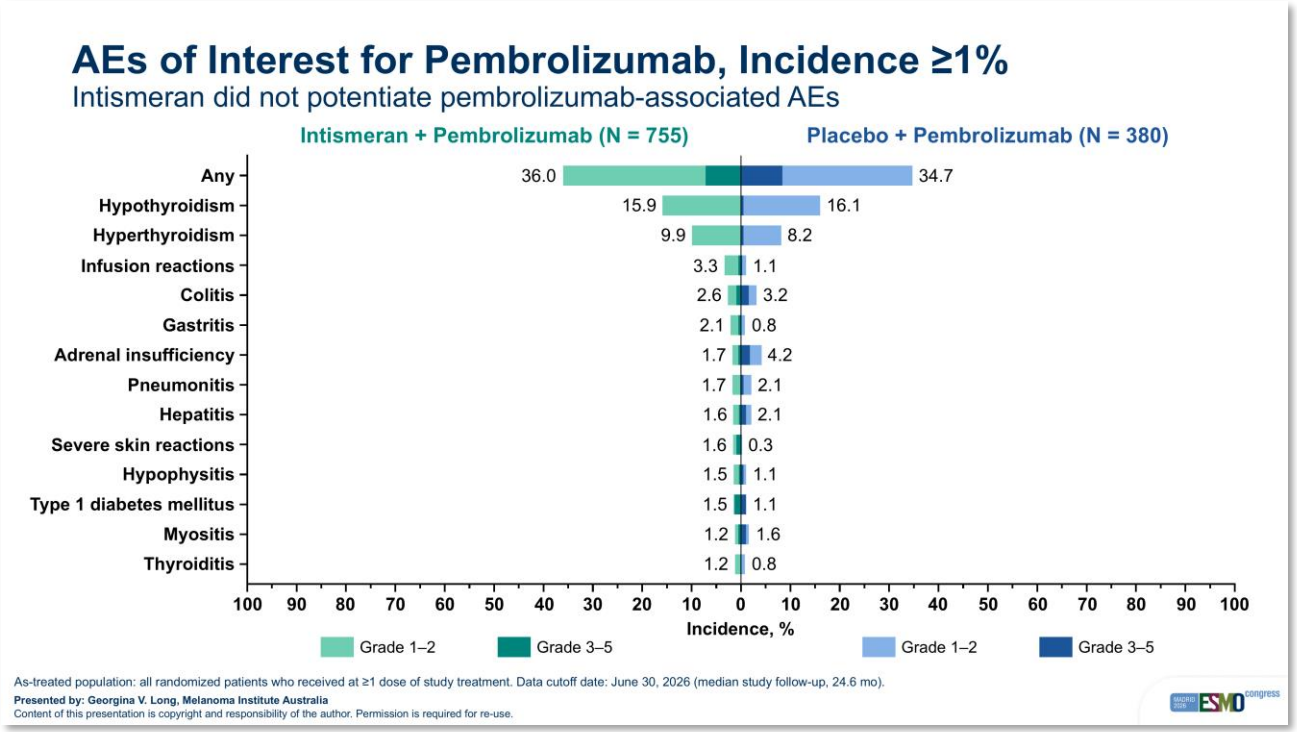
- 5 of the deaths occurred **before** the first dose of intismeran[a]; 2 were attributed to pembrolizumab
- 3 of the deaths occurred **after** the first dose of intismeran[b]; none attributed to treatment

[a]Of the 5 events, 2 were attributed to pembrolizumab (muscular weakness, myocarditis, and myositis in 1 patient and myasthenia gravis in 1 patient); the remaining deaths were due to cardiac failure (n=1), road traffic accident (n=1), and sudden death (n=1).
[b]Of the 3 events, none were attributed to study treatment (acute myocardial infarction (n=1), aspiration pneumonia (n=1), and sudden cardiac death (n=1).
As-treated population: all randomized patients who received at ≥1 dose of study treatment. Data cutoff date: June 30, 2026 (median study follow-up, 24.6 mo).

Presented by: Georgina V. Long, Melanoma Institute Australia
Content of this presentation is copyright and responsibility of the author. Permission is required for re-use.

© 2026 Moderna, Inc. All rights reserved.

Safety findings were consistent with the known profiles of the individual therapies



AEs of interest for intismeran were consistent with expected profile

- The most common AEs in the intismeran + KEYTRUDA arm were pyrexia (52.2%), injection site pain (51.0%), and fatigue (38.5%)
- AEs were generally low-grade, transient, and managed with standard supportive care

© 2026 Moderna, Inc. All rights reserved.

Summary and conclusions

INTerpath-001 met both the primary RFS and key secondary DMFS endpoints

- Intismeran + pembrolizumab reduced the risk of recurrence or death by 42% and the risk of distant metastasis or death by 38% compared with placebo + pembrolizumab
- In a modified intent-to-treat sensitivity analysis excluding patients who did not receive treatment as planned, intismeran + pembrolizumab reduced the risk of recurrence or death by 49% and distant metastases by 45%.
- Benefit was observed in most prespecified subgroups, including risk-based disease stages
- OS was immature and did not meet prespecified significance boundary[a]; follow-up is ongoing

---

Safety was generally consistent with previous experience, with no potentiation of pembrolizumab-associated AEs with the combination

---

Intismeran was reliably delivered at a global scale

Ongoing phase 2 and 3 trials are evaluating intismeran for bladder cancer, melanoma, NSCLC, and RCC in the neoadjuvant, adjuvant, or metastatic settings

---

INTerpath-001 sets a new benchmark for adjuvant therapy in melanoma and establishes intismeran as a landmark advance in personalized cancer medicine

© 2026 Moderna, Inc. All rights reserved.

Beyond melanoma, unmet need remains across adjuvant cancer settings

Estimated recurrence rate with adjuvant checkpoint inhibitors



Bladder cancer (MIUC)

~64% recurrence rate at 5 years[1]



Lung cancer

~48% recurrence rate at 4 years[2]



Renal cancer

~39% recurrence rate at 5 years[3]



Gastric/ GEJ cancer

~33% event rate at 2 years**[4]



Pancreatic cancer

~74% recurrence rate at 5 years with FOLFIRINOX*[5]

*No Phase 3 data from checkpoint inhibitor; **Event rate as EFS is the endpoint in the peri-operative setting.

1. Galsky, Matthew D., et al. "Adjuvant Nivolumab versus Placebo for High-Risk Muscle-Invasive Urothelial Carcinoma: 5-Year Efficacy and ctDNA Results from CheckMate 274." *Annals of Oncology*, vol. 37, no. 1, 2026, pp. 69–78 , 2. Merck & Co., Inc. KEYNOTE-091: Clinical Trial Results & Study Design. KEYTRUDA® (pembrolizumab) HCP website. Accessed May 27, 2026, 3. Klaassen Z. ASCO 2025: Five-year follow-up results from the phase 3 KEYNOTE-564 study of adjuvant pembrolizumab for the treatment of clear cell RCC. *UroToday*. Published during the American Society of Clinical Oncology 2025 Annual Meeting, May 30-June 3, 2025. Accessed May 27, 2026., 4. Janjigian, Yelena Y., et al. "Perioperative Durvalumab in Gastric and Gastroesophageal Junction Cancer." *New England Journal of Medicine*, vol. 393, no. 3, 16 July 2025, pp. 217–230, 5. Conroy, Thierry, et al. "Five-Year Outcomes of FOLFIRINOX vs Gemcitabine as Adjuvant Therapy for Pancreatic Cancer: A Randomized Clinical Trial." *JAMA Oncology*, vol. 8, no. 11, 2022, pp. 1571–1578

© 2026 Moderna, Inc. All rights reserved.

moderna

Reasons to believe intismeran will have benefit across tumor types



Activates T cells
Anti-PD1 reverses exhaustion of *existing T cells* whereas intismeran *activates new T cells*



Similar activity in high and non-high TMB melanoma in Phase 2 trial



Large treatment effect
High treatment effect in INT-001 bodes well for other tumor types

© 2026 Moderna, Inc. All rights reserved.

Reasons to believe intismeran will have benefit across tumor types



Activates T cells
Anti-PD1 reverses exhaustion of *existing T cells* whereas intismeran *activates new T cells*



Similar activity in high and non-high TMB melanoma in Phase 2 trial



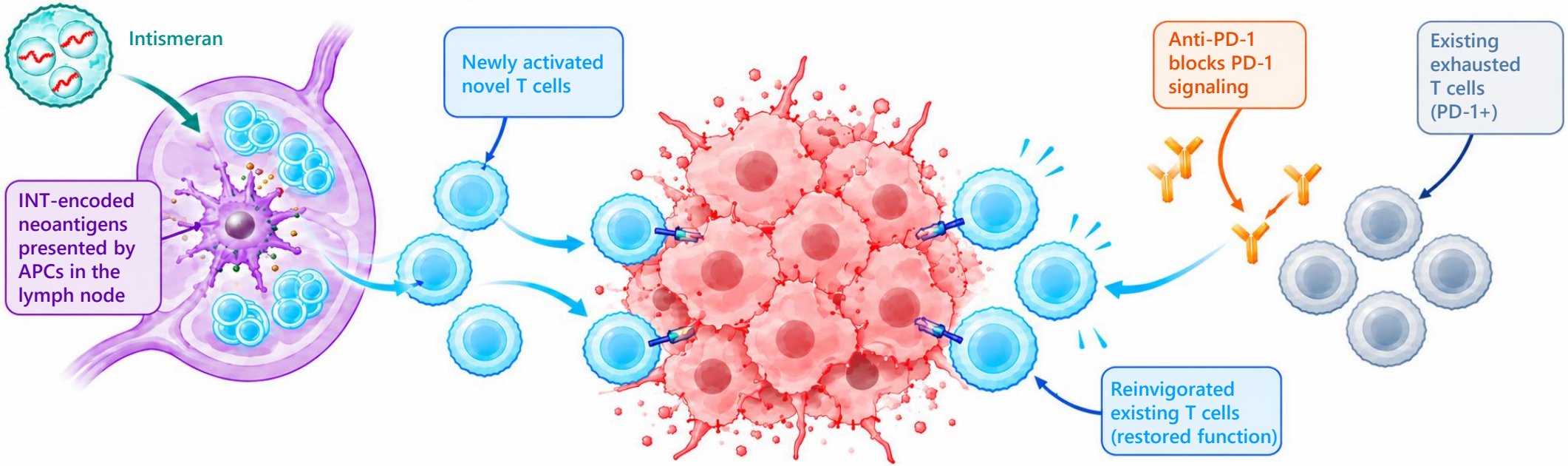
Large treatment effect
High treatment effect in INT-001 bodes well for other tumor types

© 2026 Moderna, Inc. All rights reserved.

Intismeran generates novel anti-tumor T cell responses

Intismeran
Primes and activates new, neoantigen-specific T cells against the tumor

Anti-PD-1 immunotherapy
Restores activity of existing tumor-reactive T cells

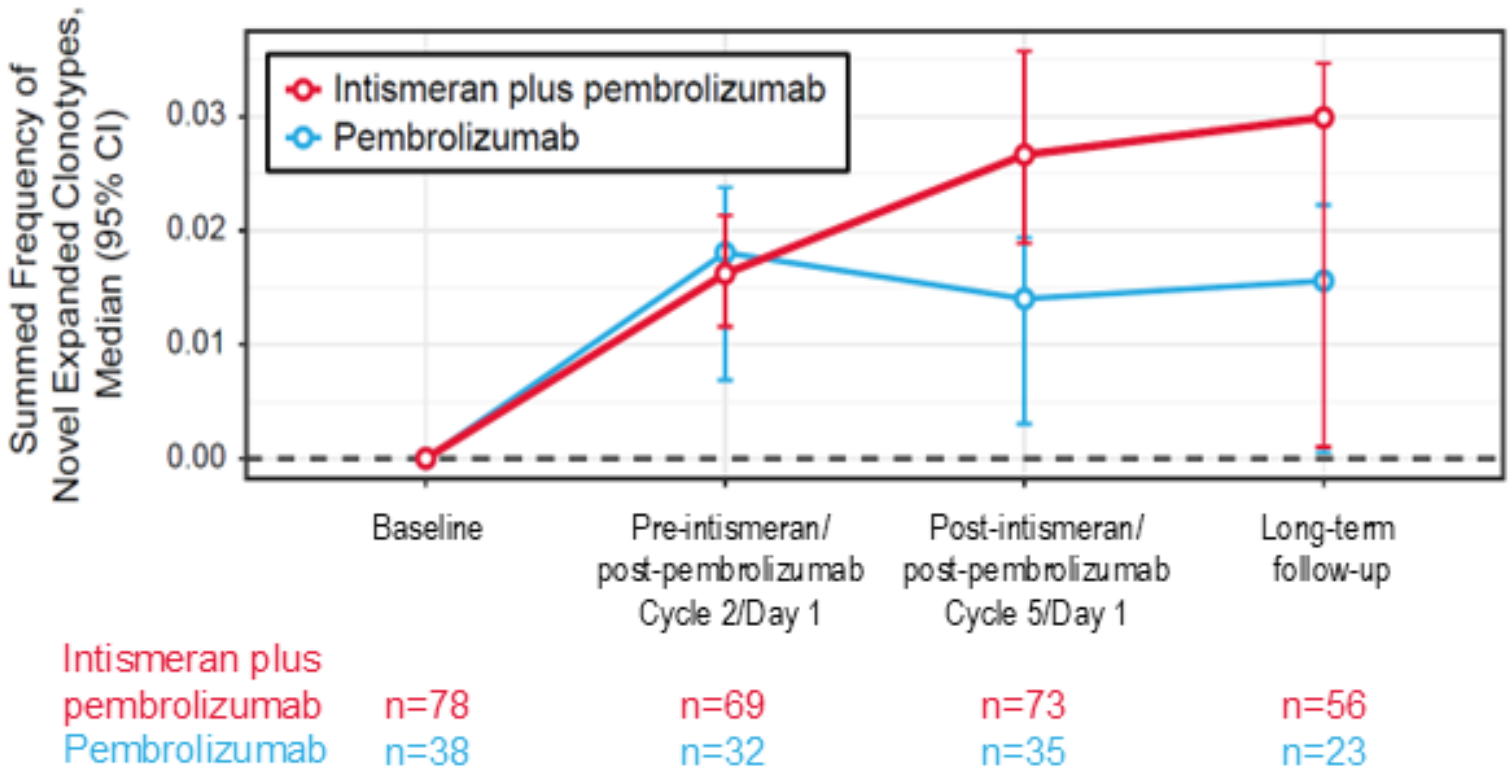


Activates novel T cells clones

Reinvigorates existing T cells

© 2026 Moderna, Inc. All rights reserved.

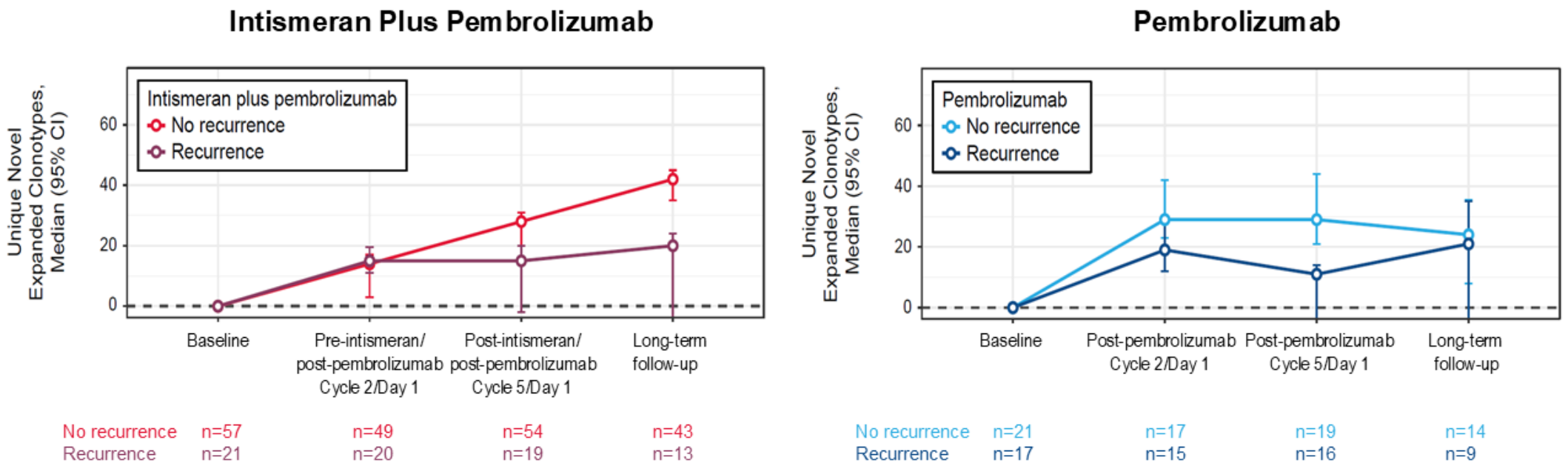
Intismeran plus pembrolizumab induces more novel T cell clones



Red line=neoantigen specific T cells

© 2026 Moderna, Inc. All rights reserved.

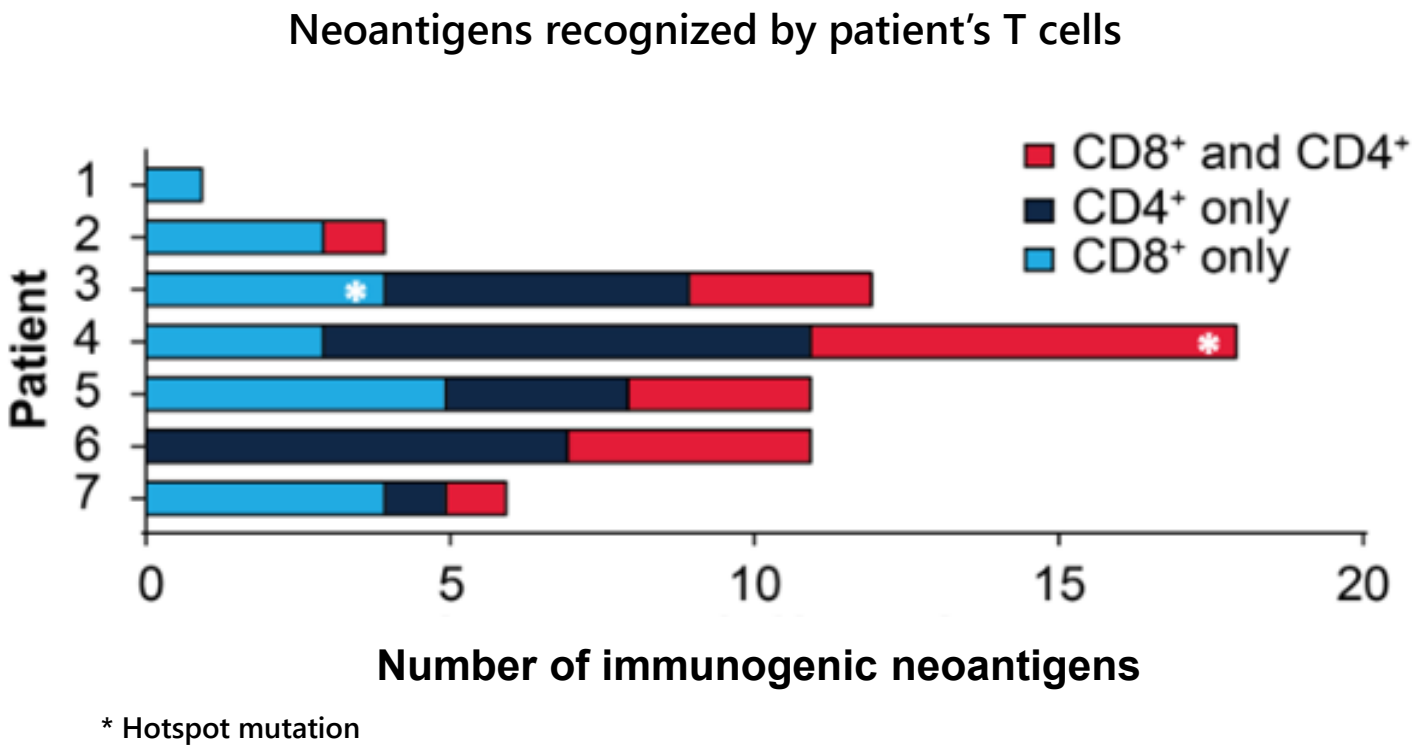
Patients without recurrence on intismeran plus pembrolizumab showed greater expansion of novel T cell clones



Data are shown as median and bootstrapped 95% CI. Whole blood TCR RNA sequencing at baseline, pre-intismeran/post-pembrolizumab (Cycle2/Day1), post-intismeran/post-pembrolizumab (Cycle5/Day1), and 30 days after the last pembrolizumab dose. Long-term follow-up data were collected at >170 days after last intismeran dose.

© 2026 Moderna, Inc. All rights reserved.

Intismeran induces neoantigen-specific T cells

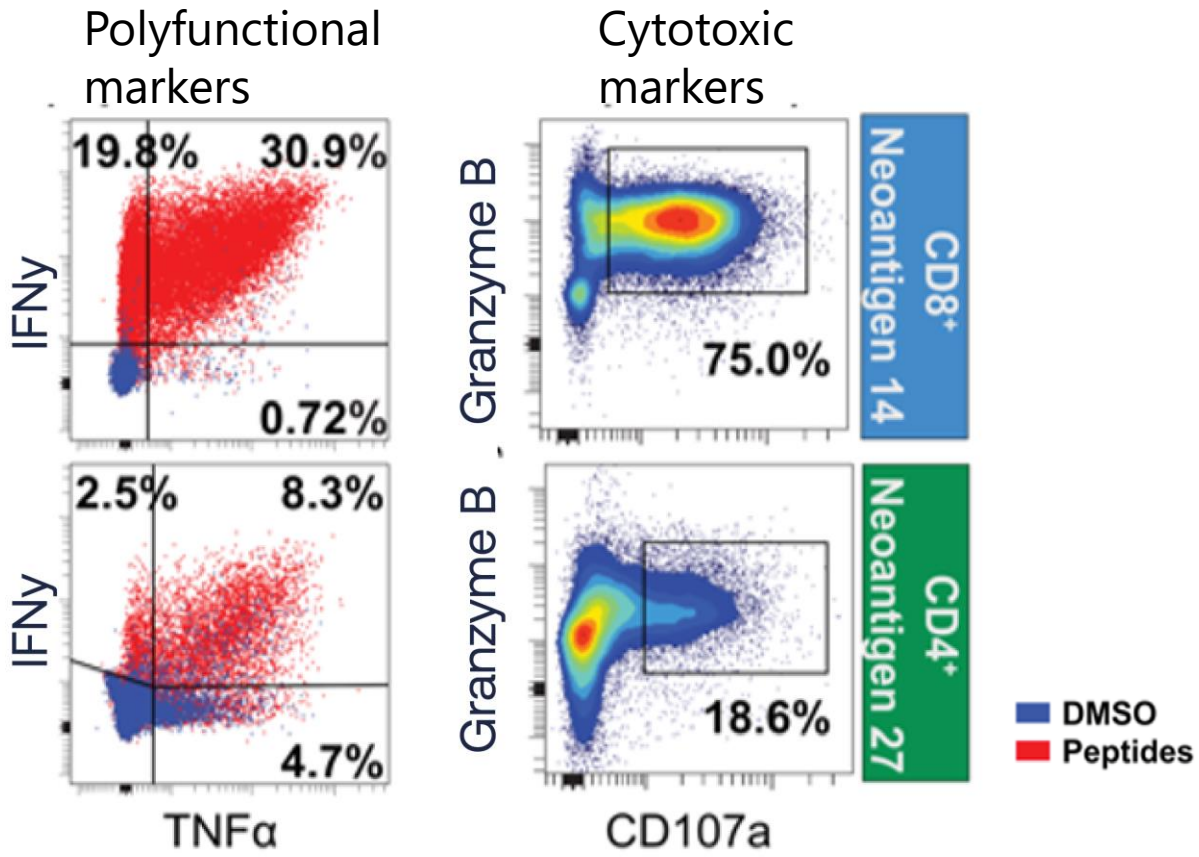


* Hotspot mutation

- On average 1 of 3 selected neoantigens induce T cell response
- Induces both CD4 and CD8 neoantigen reactive T cells

© 2026 Moderna, Inc. All rights reserved.

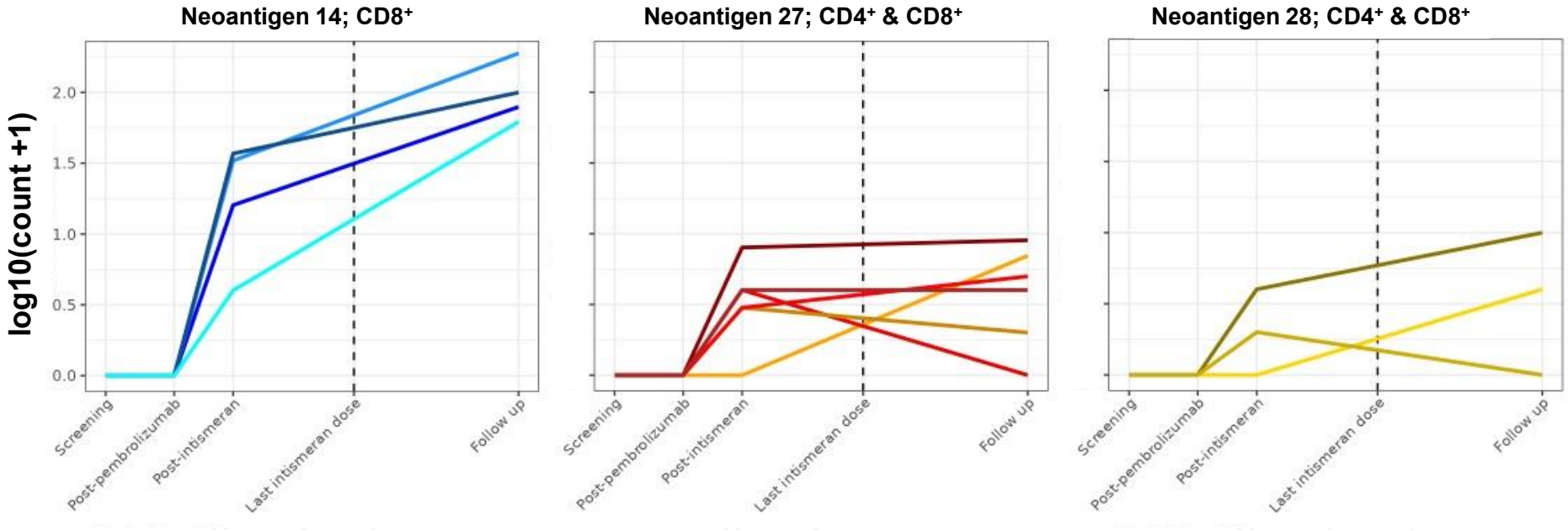
The CD8+ and CD4+ neoantigen T cells are polyfunctional and cytotoxic



Intracellular cytokine staining (ICS) of neoantigen reactive T cells from patient #3

© 2026 Moderna, Inc. All rights reserved.

The neoantigen-specific T cell clones detected after intismeran



Multiple T cell clones recognize same neoantigens

Method: AIM-based enrichment of CD4+ and CD8+ T cells *ex vivo* or after *in vitro* expansion; a >=5-cell threshold per clonotype(n=57 for neoantigen 14, n=38 for neoantigen 27, n=28 for neoantigen 28)

© 2026 Moderna, Inc. All rights reserved.

Reasons to believe intismeran will have benefit across tumor types



Activates T cells

Anti-PD1 reverses exhaustion of *existing T cells* whereas intismeran *activates new T cells*



Similar activity in high and non-high TMB melanoma in Phase 2 trial



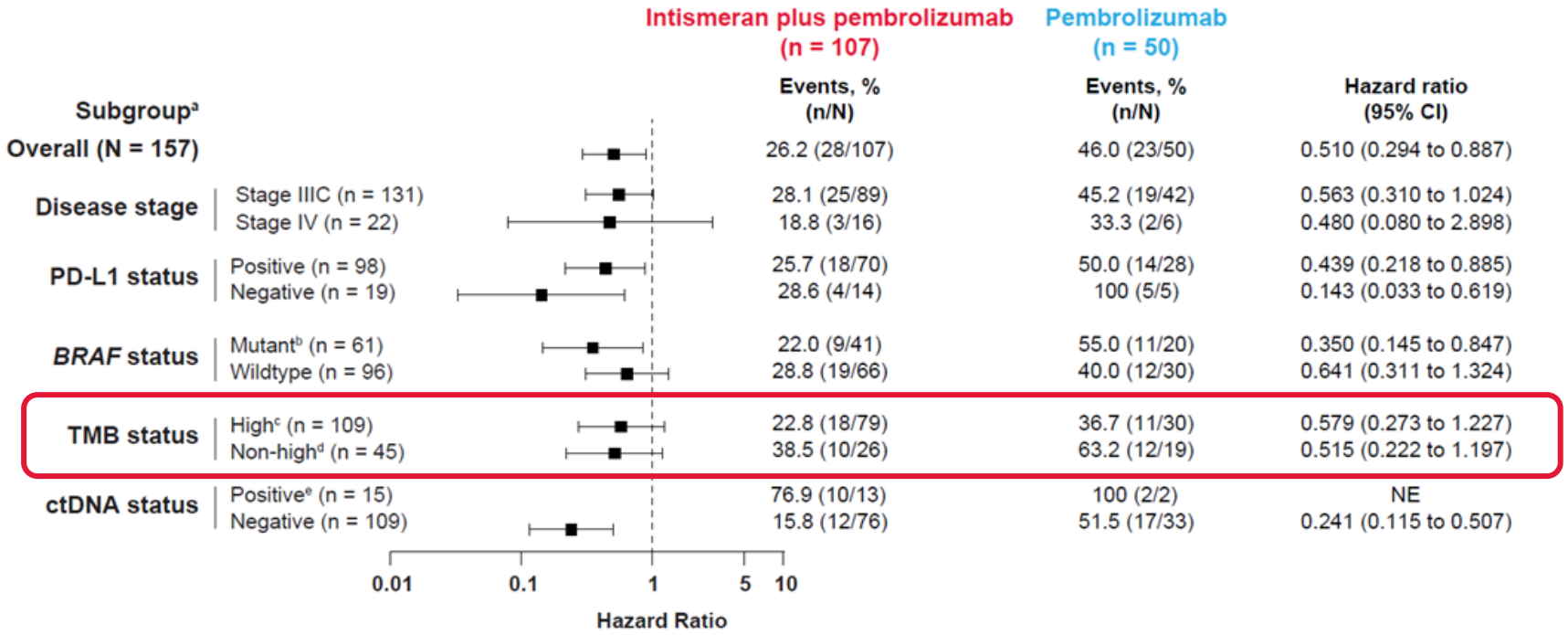
Large treatment effect

High treatment effect in INT-001 bodes well for other tumor types

© 2026 Moderna, Inc. All rights reserved.

moderna

Subgroup analyses indicate RFS benefit is maintained across a broad patient population



[a]RFS in the overall population was estimated by a stratified Cox proportional hazards model; an unstratified analysis was used for subgroup analyses. [b]V600K or V600E mutation. [c]≥175 mutations/exome; [d]<175 mutations/exome. [e]Hazard ratio for the ctDNA-positive subgroup was NE as all patients in the pembrolizumab had a recurrence event. Subgroups were defined as previously described.[1]

1. Weber JS, et al. *Lancet*. 2024;403(10427):632-644

2026 ASCO ANNUAL MEETING #ASCO26

PRESENTED BY: Matteo S. Carlino, MD, PhD

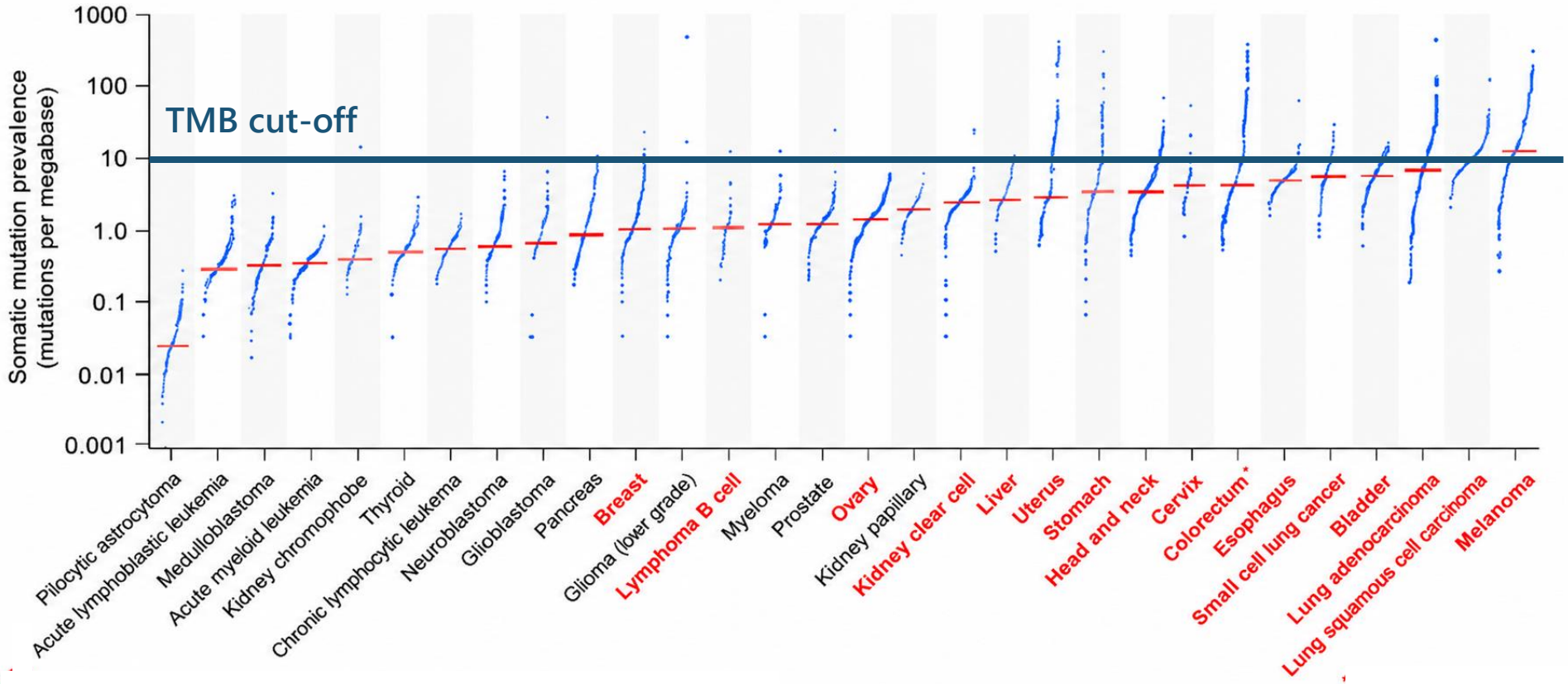
Presentation is property of the author and ASCO. Permission required for reuse; contact permissions@asco.org.

ASCO AMERICAN SOCIETY OF CLINICAL ONCOLOGY
KNOWLEDGE CONQUERS CANCER

© 2026 Moderna, Inc. All rights reserved.

moderna

Phase 2 adjuvant melanoma data strengthen confidence in intismeran's potential across multiple cancer indications



Many tumor histologies are IO sensitive

Red text: Checkpoint inhibitors are approved for treatment of this cancer indication

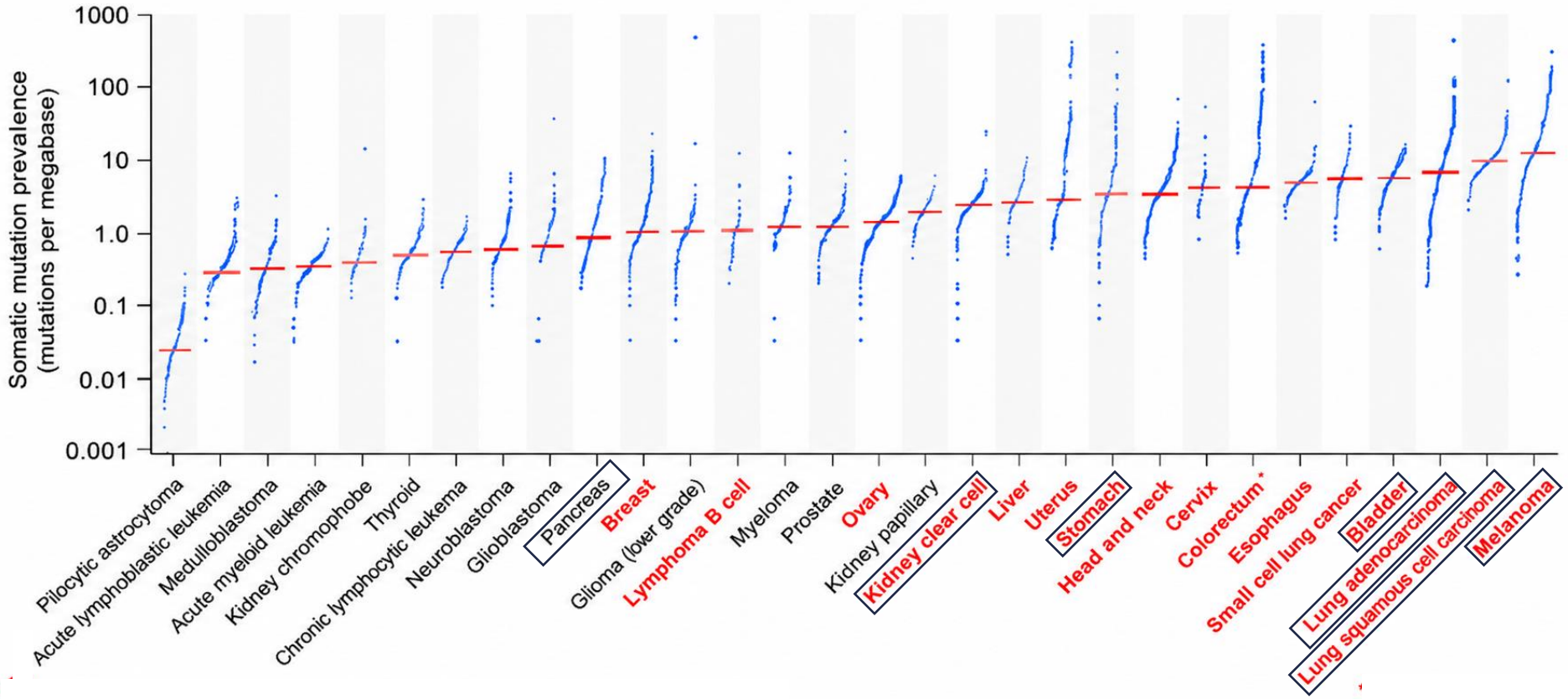
* Primarily MSI-H/dMMR disease

Source: Büttner R, et al. ESMO Open. 2019;4, Fig. 1B. Adapted from Alexandrov LB, et al. Nature. 2013;500:415–421.

© 2026 Moderna, Inc. All rights reserved.

moderna

Ongoing Phase 2 or Phase 3 studies in multiple indications



- Melanoma
- Non-small cell lung cancer
- MIBC
- NMIBC
- Renal cell carcinoma
- Gastric cancer
- Pancreatic cancer

Red text: Checkpoint inhibitors are approved for treatment of this cancer indication

* Primarily MSI-H/dMMR disease

Source: Büttner R, et al. ESMO Open. 2019;4, Fig. 1B. Adapted from Alexandrov LB, et al. Nature. 2013;500:415–421.

© 2026 Moderna, Inc. All rights reserved.

moderna

Reasons to believe intismeran will have benefit across tumor types



Activates T cells
Anti-PD1 reverses exhaustion of *existing T cells* whereas intismeran *activates new T cells*



Similar activity in high and non-high TMB melanoma in Phase 2 trial



Large treatment effect
High treatment effect in INT-001 bodes well for other tumor types

© 2026 Moderna, Inc. All rights reserved.

Phase 3 in adjuvant melanoma results demonstrate the potential for added benefit with intismeran + KEYTRUDA

Hazard ratios for randomized Phase 3 trials

	Adjuvant melanoma	RCC	NSCLC	MIBC
KEYTRUDA alone versus placebo[1]	KEYNOTE 054[2] **0.56** Median follow-up: 36.6 mos.	KEYNOTE 564[3] **0.68** Median follow-up: 24.1 mos.	KEYNOTE 091[4] **0.76** Median follow-up: 35.6 mos.	AMBASSADOR TRIAL[5] **0.69** Median follow-up: 22.3 mos.
Intismeran + KEYTRUDA versus KEYTRUDA alone	INTerpath-001[6] **0.58** Median follow-up: 24.6 mos.	**INTerpath-004 trial ongoing**[7*]	**INTerpath-002 trial ongoing**[8]	**INTerpath-005 trial ongoing**[9]

1. MIBC ambassador trial versus observation; 2. KEYNOTE-054 (Melanoma), https://ascopubs.org/doi/10.1200/JCO.20.02110; 3. KEYNOTE-564 (RCC), https://pubmed.ncbi.nlm.nih.gov/34407342/; 4. KEYNOTE-091 (NSCLC), https://pubmed.ncbi.nlm.nih.gov/36108662/; 5. AMBASSADOR (MIBC), https://www.nejm.org/doi/10.1056/NEJMoa2401726; 6. INTerpath-001 (Melanoma), https://clinicaltrials.gov/study/NCT05933577; 7. INTerpath-004 (RCC), https://clinicaltrials.gov/study/NCT06307431; 8. INTerpath-002 (NSCLC), https://clinicaltrials.gov/study/NCT06077760; 9. INTerpath-005 (MIBC), https://clinicaltrials.gov/study/NCT06305767; *Phase 2/3 trial

© 2026 Moderna, Inc. All rights reserved.

moderna

Intismeran's clinical development program

Partnered with Merck

	Ph 1	Ph 2	Ph 3	Commercial	Treatment in investigational arm: **intismeran +**	Enrollment status	Clinical readouts
ADJUVANT							
Melanoma					pembrolizumab	Fully enrolled	• Data presented at ESMO 2026 • Published in NEJM
NSCLC					pembrolizumab	Fully enrolled	Event-driven
NSCLC non-pCR post-neoadjuvant					pembrolizumab		
Stage 1 NSCLC					Arm 1: monotherapy Arm 2: pembrolizumab subcutaneous		
Renal cell carcinoma (RCC)					pembrolizumab	Fully enrolled	Event-driven
Bladder cancer (MIBC)					pembrolizumab	Fully enrolled	Event-driven
Bladder cancer (NMIBC)					Bacillus Calmette-Guérin		
METASTATIC							
First-line melanoma					pembrolizumab		
First-line squamous NSCLC					pembrolizumab + chemotherapy		
EARLY AND ADVANCED CANCERS							
Solid tumors					standard of care	Fully enrolled	Poster presentation at ESMO 2026

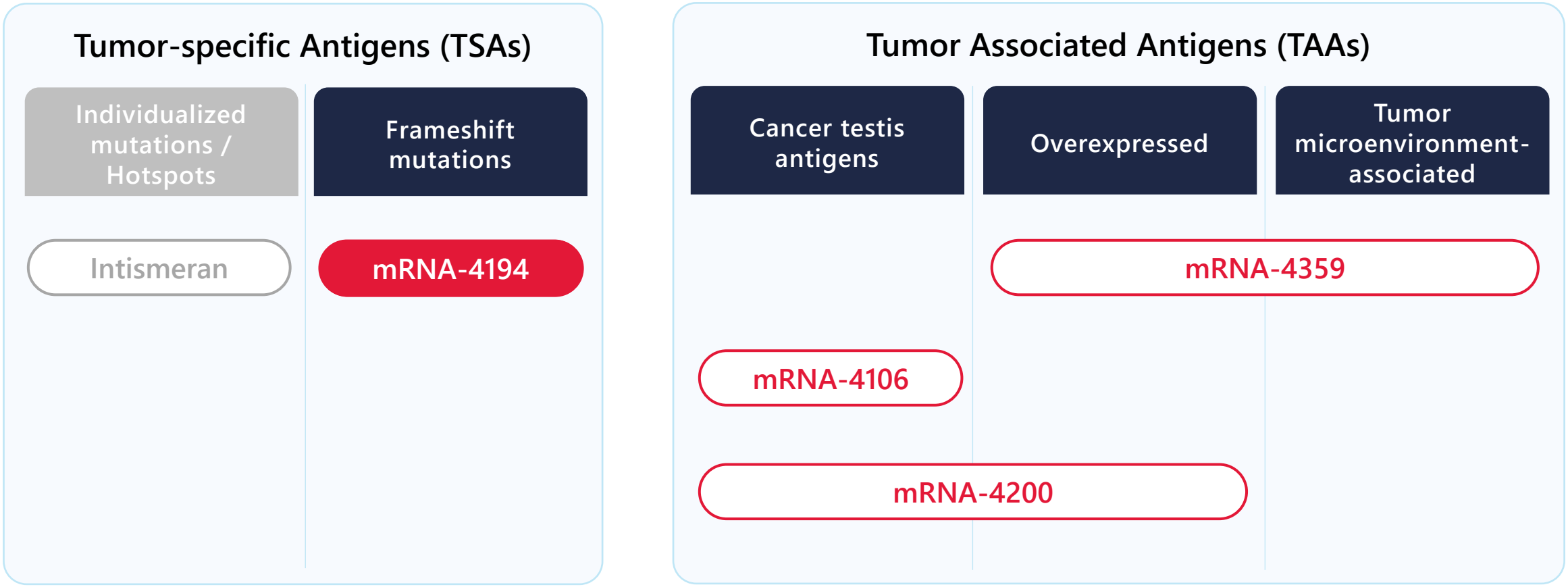
© 2026 Moderna, Inc. All rights reserved.

moderna

Therapeutics

Cancer antigen therapies

Cancer antigen therapies are designed to target distinct tumor biology



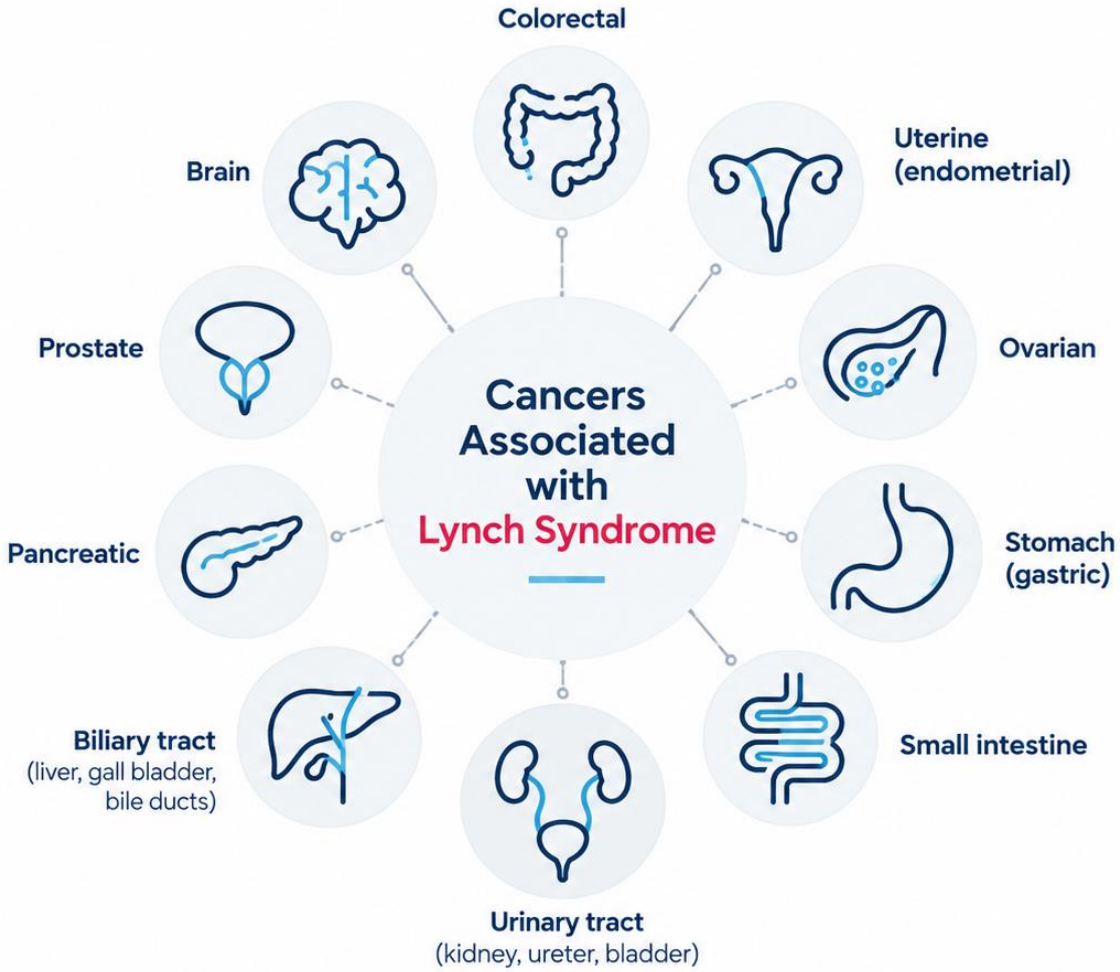
© 2026 Moderna, Inc. All rights reserved.

Lynch Syndrome: An inherited cancer predisposition syndrome

Individuals with Lynch syndrome face elevated lifetime risk of colorectal, endometrial, and other cancers

Current management relies primarily on surveillance, with aspirin used by some patients as a preventive strategy to reduce colorectal cancer risk

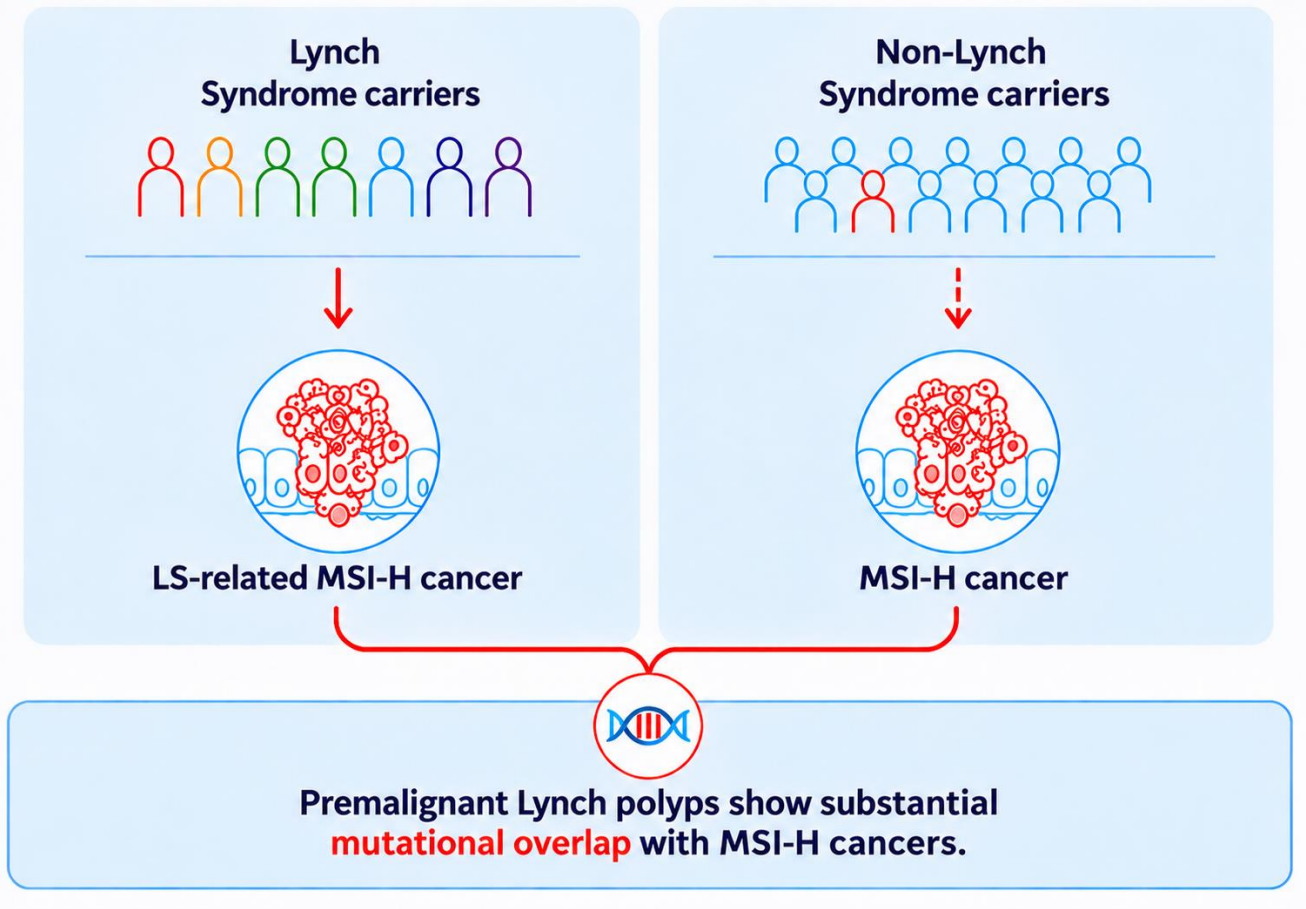
Inherited defects in DNA mismatch repair lead to the accumulation of frameshift mutations



Source: Centers for Disease Control and Prevention (CDC). About Lynch Syndrome. https://www.cdc.gov/colorectal-cancer-hereditary/about/lynch-syndrome.html

© 2026 Moderna, Inc. All rights reserved.

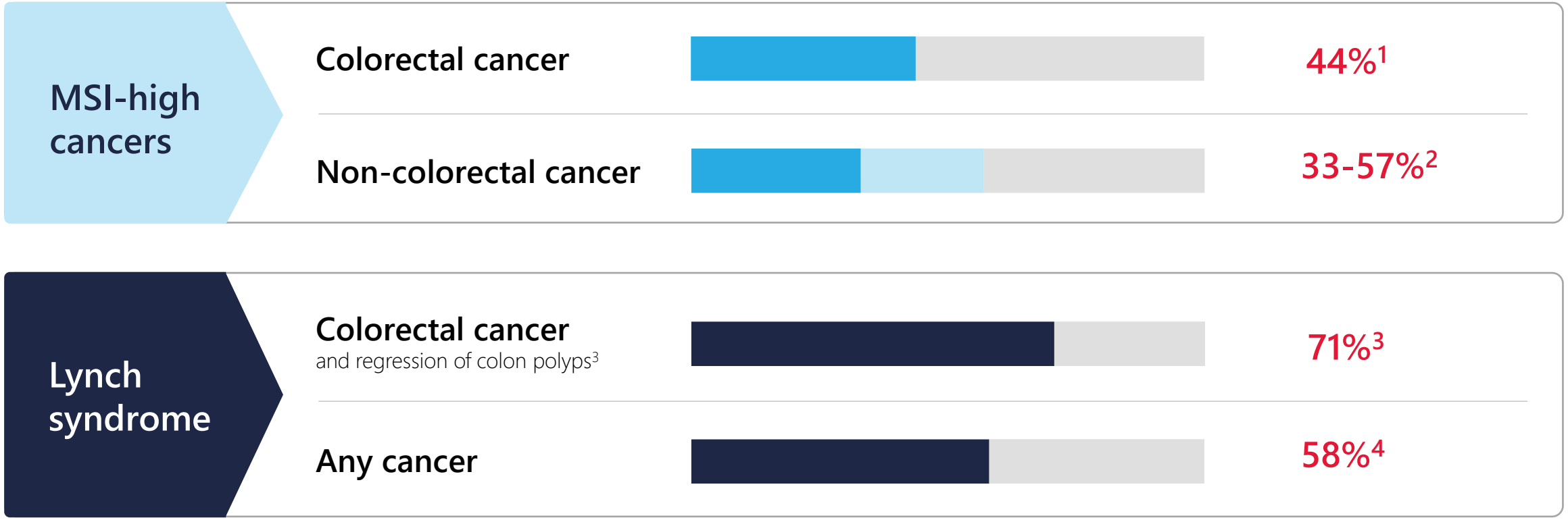
Frameshift mutations create a potentially targetable source of cancer-specific antigens



- **mRNA-4194 antigens are shared across colorectal, endometrial, and gastric MSI-H tumors**, supporting relevance across key Lynch-associated cancer types.
- **The vaccine incorporates 194 frameshift antigens** to create numerous opportunities for immune recognition within and across patients.
- **The selected antigens are designed to elicit immune responses** against targets observed in both premalignant Lynch polyps and MSI-H cancers.

© 2026 Moderna, Inc. All rights reserved.

Anti-PD1 has high response rate in MSI-H/Lynch cancers



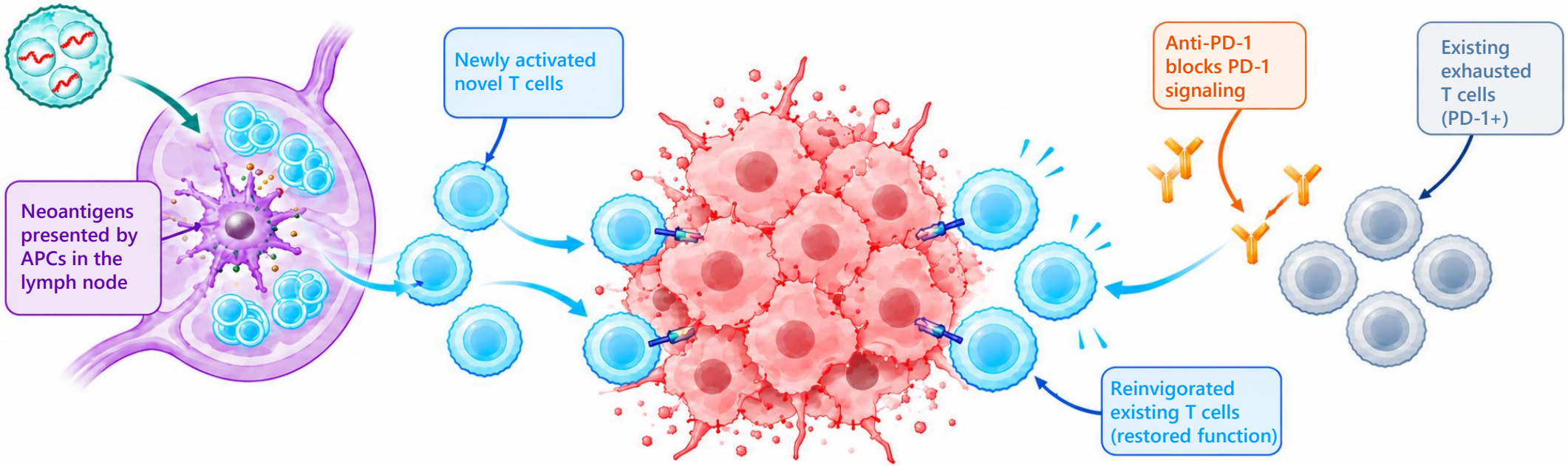
1. N Engl J Med. 2020 Dec 3;383(23):2207-2218
2. J Clin Oncol 2019 Nov 4;38(1):1–10
3. Eur J Cancer 2023 Oct: 192:113253.
4. *J Clin Oncol. 2020; 38(1):1–10*

© 2026 Moderna, Inc. All rights reserved.

mRNA-4194 designed to induce novel anti-tumor T cells

mRNA-4194
Primes and activates new frameshift neoantigen-specific T cells against the tumor

Anti-PD-1 immunotherapy
Restores activity of existing tumor-reactive T cells



Activates many novel T cells clones that are polyfunctional and cytotoxic

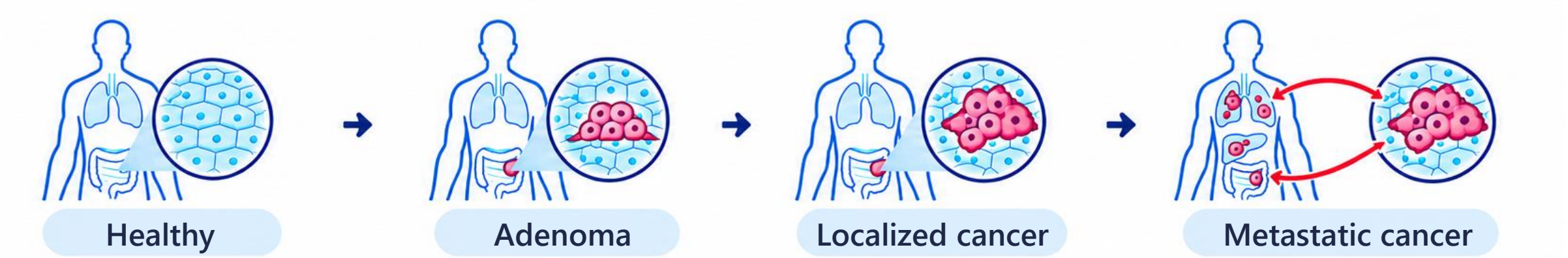
Reinvigorates existing T cells

© 2026 Moderna, Inc. All rights reserved.

Objective: Intercept cancer before it develops in people living with Lynch Syndrome

Without intervention

The natural progression from healthy tissue to metastatic cancer

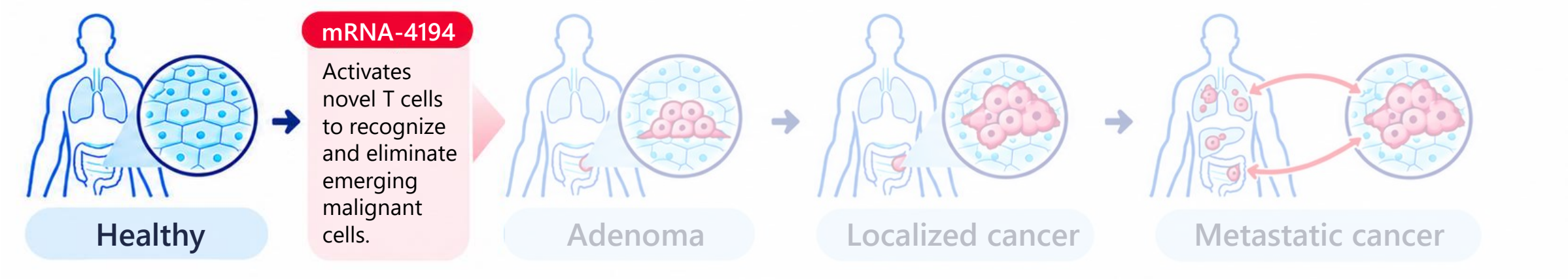


© 2026 Moderna, Inc. All rights reserved.

Objective: Intercept cancer before it develops in people living with Lynch Syndrome

With intervention

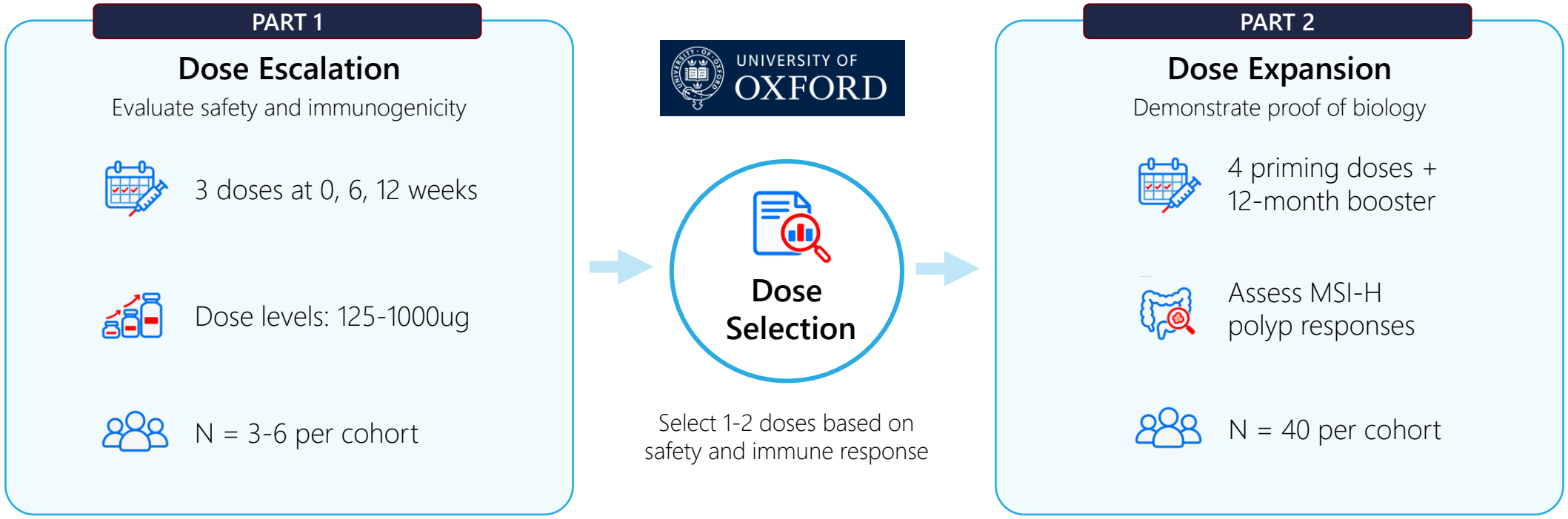
mRNA-4194 aims to eliminate emerging malignant cells before cancer develops



© 2026 Moderna, Inc. All rights reserved.

FIH Phase 1 Lynch Syndrome study design

P101 will be divided into 2 parts: Part 1 will test safety and immunogenicity & Part 2 will assess proof of biology

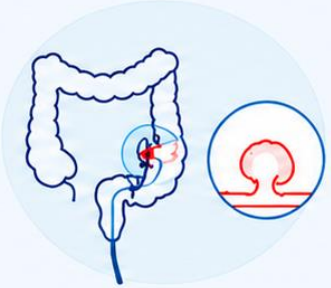


© 2026 Moderna, Inc. All rights reserved.

FIH part 2 designed to evaluate effect on MSI-H adenomas

Part 2 of Phase 1 mRNA-4194 study in Lynch Syndrome

1 Baseline Colonoscopy



Screen participants using standard-of-care colonoscopy

2 Eligibility Criteria



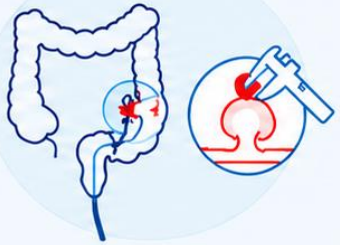
- N=40 per cohort
- Confirmed LS
- At least 1 adenomatous colorectal polyp ≥2 mm and <10 mm

3 mRNA-4194



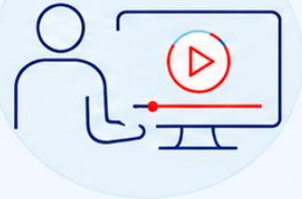
Administration of mRNA-4194

4 7-Month Colonoscopy



Polyps measured prior to removal for analysis.

5 Central Review



Colonoscopy video reviewed to confirm polyp size measurement at Baseline and at 7 Mo FU.

© 2026 Moderna, Inc. All rights reserved.

Therapeutics

T cell engagers

mRNA-2808 could differentiate in multiple myeloma as the only treatment targeting three disease antigens

T-cell engager landscape in multiple myeloma



First Generation

Single target



Second Generation

Two targets
Bi-specific approach



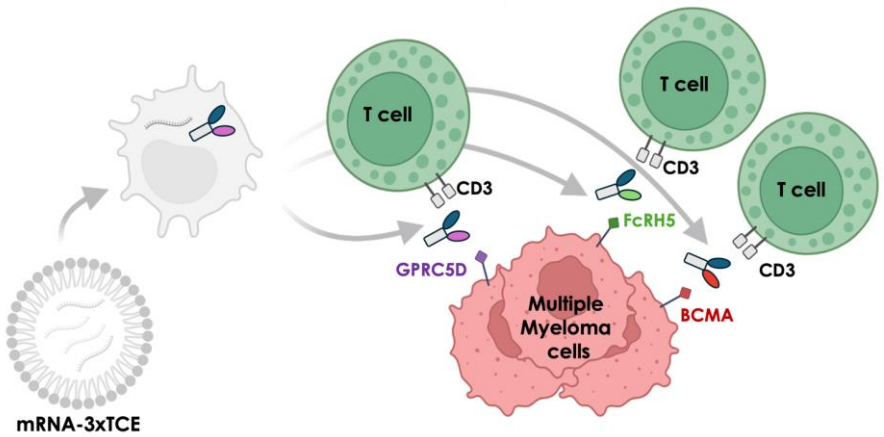
mRNA-2808

Three targets
Expanded targeting potential

© 2026 Moderna, Inc. All rights reserved.

mRNA-2808 includes distinct T-cell engagers against clinically-validated multiple myeloma targets; BCMA, GPRC5D, and FcRH5

mRNA-2808 mechanism of action

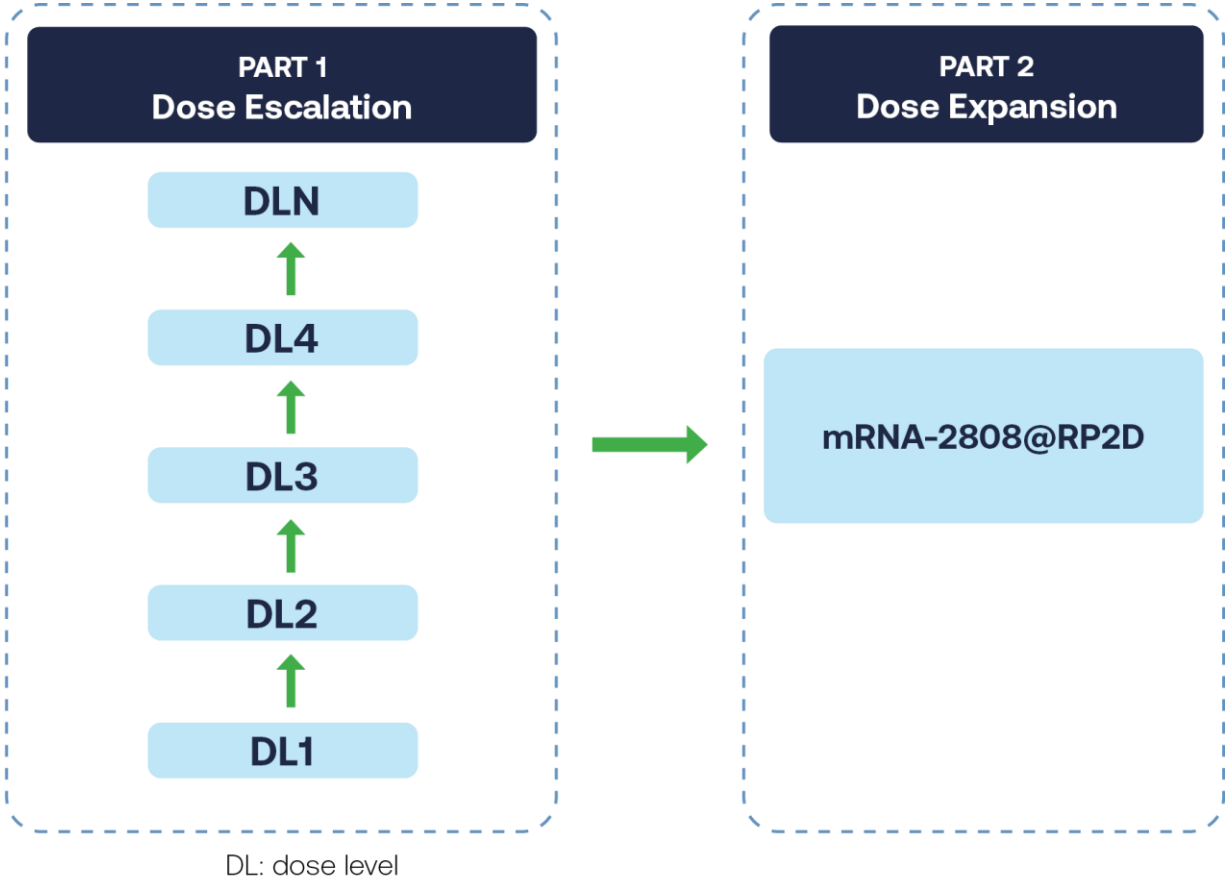


- Multiplexes to overcome antigen escape, well-established resistance mechanism
- Targets T cell CD3 and clinically validated tumor associated antigens (TAAs) that are present on the surface of the tumor

© 2026 Moderna, Inc. All rights reserved.

mRNA-2808 phase 1/2 study ongoing in multiple myeloma

Phase 1/2 study design and key objectives



DL: dose level

Key eligibility: Relapsed refractory multiple myeloma with prior exposure to three treatments: a proteasome inhibitor, an immunomodulatory drug (IMiD), and an anti-cluster of differentiation (CD38) monoclonal antibody.

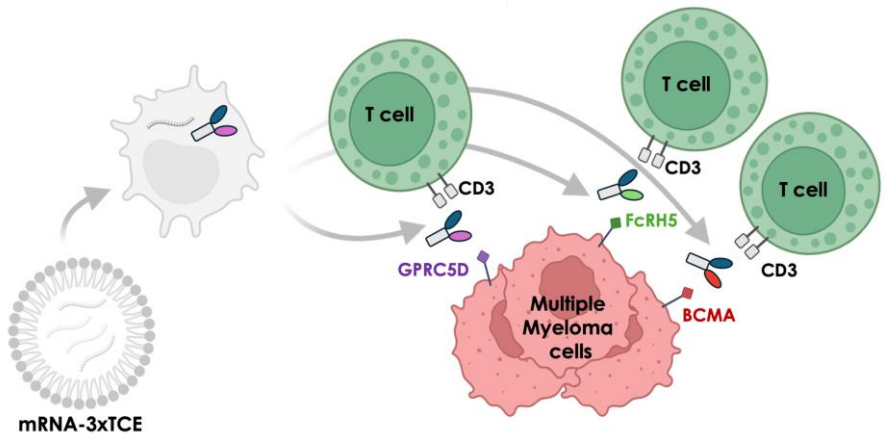
Primary endpoints: Safety, number of participants with dose limiting toxicity, number of participants with treatment-emergent adverse events

Secondary endpoints: Pharmacokinetics, pharmacodynamics, overall response rate by International Myeloma Working Group (IMWG), duration of response, progression-free survival

© 2026 Moderna, Inc. All rights reserved.

mRNA-2808 demonstrates encouraging early clinical activity with a multiplexed T-cell engager approach

mRNA-2808 mechanism of action



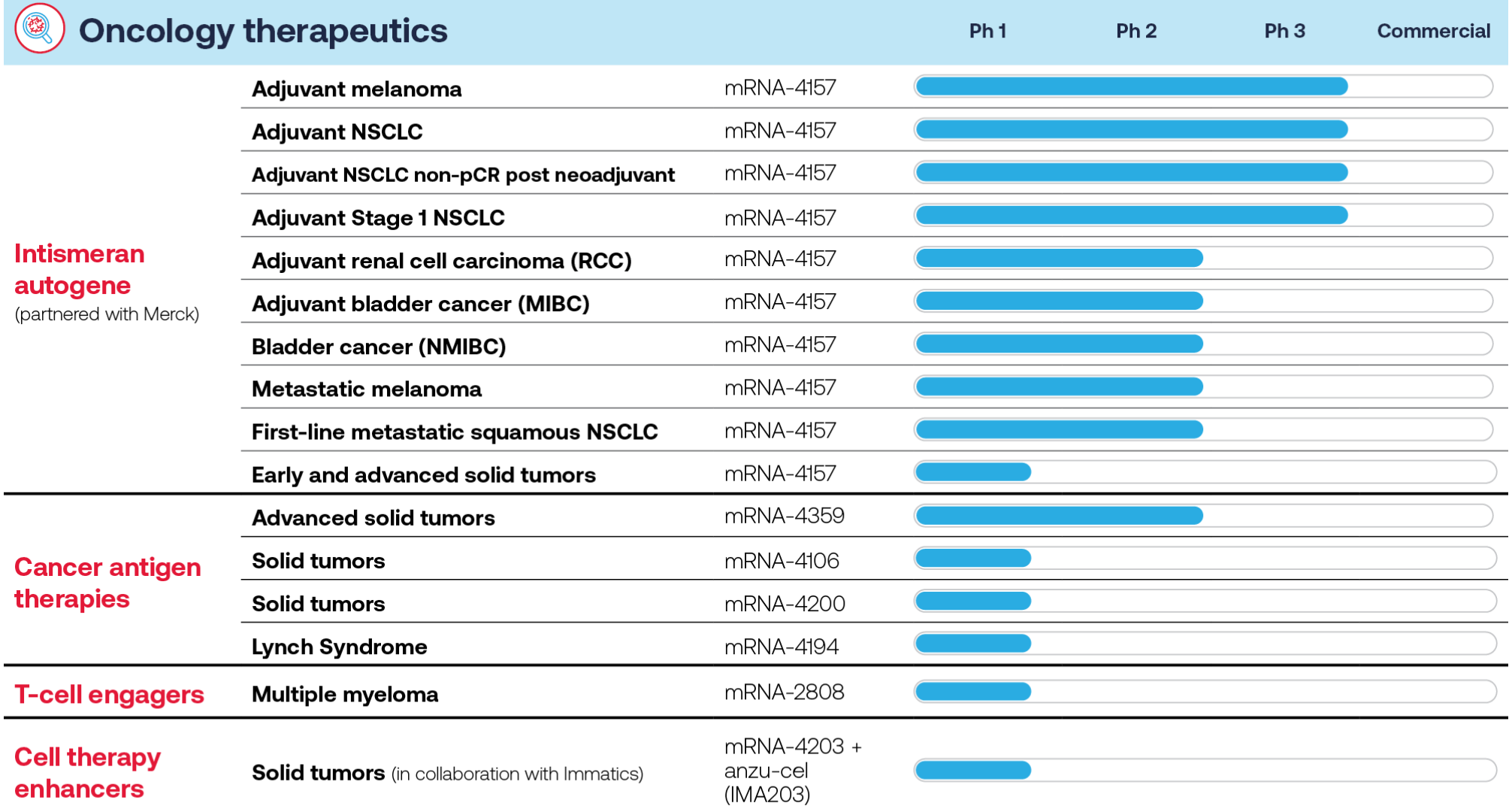
- **Abstract accepted for ASH 2026 Oral presentation:** *"Initial results from a first-in-human phase 1/2 trial of mRNA-2808, a multiplexed mRNA therapeutic encoding BCMA, GPRC5D, and FcRH5-targeted T-cell engagers, in relapsed/refractory multiple myeloma"*

- **mRNA-2808 demonstrated responses (4/11 patients) in heavily pretreated multiple myeloma**, including patients previously treated with BCMA- and/or GPRC5D-directed therapies, with no dose-limiting toxicities or grade ≥2 cytokine release syndrome.

© 2026 Moderna, Inc. All rights reserved.

Oncology pipeline

Oncology therapeutics



Intismeran autogene (partnered with Merck)	**Adjuvant melanoma**	mRNA-4157	Ph 3
	Adjuvant NSCLC	mRNA-4157	Ph 3
	Adjuvant NSCLC non-pCR post neoadjuvant	mRNA-4157	Ph 3
	Adjuvant Stage 1 NSCLC	mRNA-4157	Ph 3
	Adjuvant renal cell carcinoma (RCC)	mRNA-4157	Ph 2
	Adjuvant bladder cancer (MIBC)	mRNA-4157	Ph 2
	Bladder cancer (NMIBC)	mRNA-4157	Ph 2
	Metastatic melanoma	mRNA-4157	Ph 2
	First-line metastatic squamous NSCLC	mRNA-4157	Ph 2
	Early and advanced solid tumors	mRNA-4157	Ph 1
Cancer antigen therapies	**Advanced solid tumors**	mRNA-4359	Ph 2
	Solid tumors	mRNA-4106	Ph 1
	Solid tumors	mRNA-4200	Ph 1
	Lynch Syndrome	mRNA-4194	Ph 1
T-cell engagers	**Multiple myeloma**	mRNA-2808	Ph 1
Cell therapy enhancers	**Solid tumors** (in collaboration with Immatics)	mRNA-4203 + anzu-cel (IMA203)	Ph 1

© 2026 Moderna, Inc. All rights reserved.

Clinical Q&A

Conclusion

Stéphane Bancel

Chief Executive Officer

© 2026 Moderna, Inc. All rights reserved.

We invest across multiple horizons to drive near-term growth and long-term innovation

Sales

Horizon 1
Established modalities

Late-stage pipeline
and approved products

ID vaccines
- Spikevax
- mRESVIA
- mNEXSPIKE
- mFLUSIVA
- mCOMBRIAX

Oncology
Intismeran

Rare diseases
PA

Horizon 2
Emerging modalities

In Phase 1 or 2 clinical trials

Cancer antigen therapies
- mRNA-4359
- mRNA-4194
- mRNA-4200
- mRNA-4106

T cell engager
- mRNA-2808

Horizon 3
New modalities

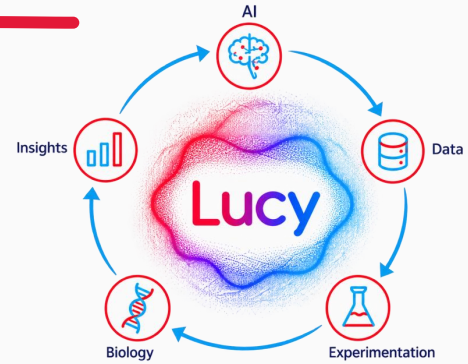
Potential to advance to first-in-human clinical trials in the mid-term

In vivo CAR-T
- mRNA-6007

In vivo CAR-M

Horizon 4
Inventing new technology building blocks

To unlock future modalities



Time

© 2026 Moderna, Inc. All rights reserved.

Most people thought about Moderna as a COVID-19 vaccine company

- Spikevax

© 2026 Moderna, Inc. All rights reserved.

We invest across multiple horizons to drive near-term growth and long-term innovation

Sales

Horizon 1
Established modalities

Late-stage pipeline
and approved products

ID vaccines
- Spikevax
- mRESVIA
- mNEXSPIKE
- mFLUSIVA
- mCOMBRIAX

Oncology
Intismeran

Rare diseases
PA

Horizon 2
Emerging modalities

In Phase 1 or 2 clinical trials

Cancer antigen therapies
- mRNA-4359
- mRNA-4194
- mRNA-4200
- mRNA-4106

T cell engager
- mRNA-2808

Horizon 3
New modalities

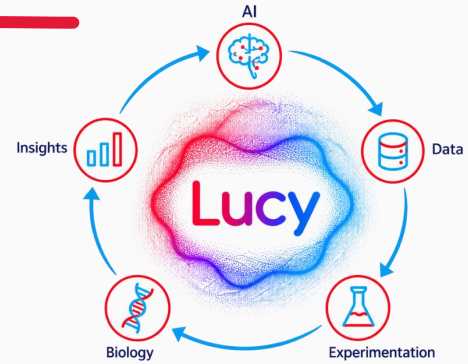
Potential to advance to first-in-human clinical trials in the mid-term

In vivo CAR-T
- mRNA-6007

In vivo CAR-M

Horizon 4
Inventing new technology building blocks

To unlock future modalities



Time

© 2026 Moderna, Inc. All rights reserved.

Our mission

Deliver the greatest possible impact to **people** through mRNA **medicines**

© 2026 Moderna, Inc. All rights reserved.

Thank you

© 2026 Moderna, Inc. All rights reserved.

moderna