moderna

Oncology Therapeutics

Program Pack

Checkpoint AIM-T (mRNA-4359)

Checkpoint AIM-T vaccine (mRNA-4359) aims to promote anti-checkpoint T-cell responses

Program objective

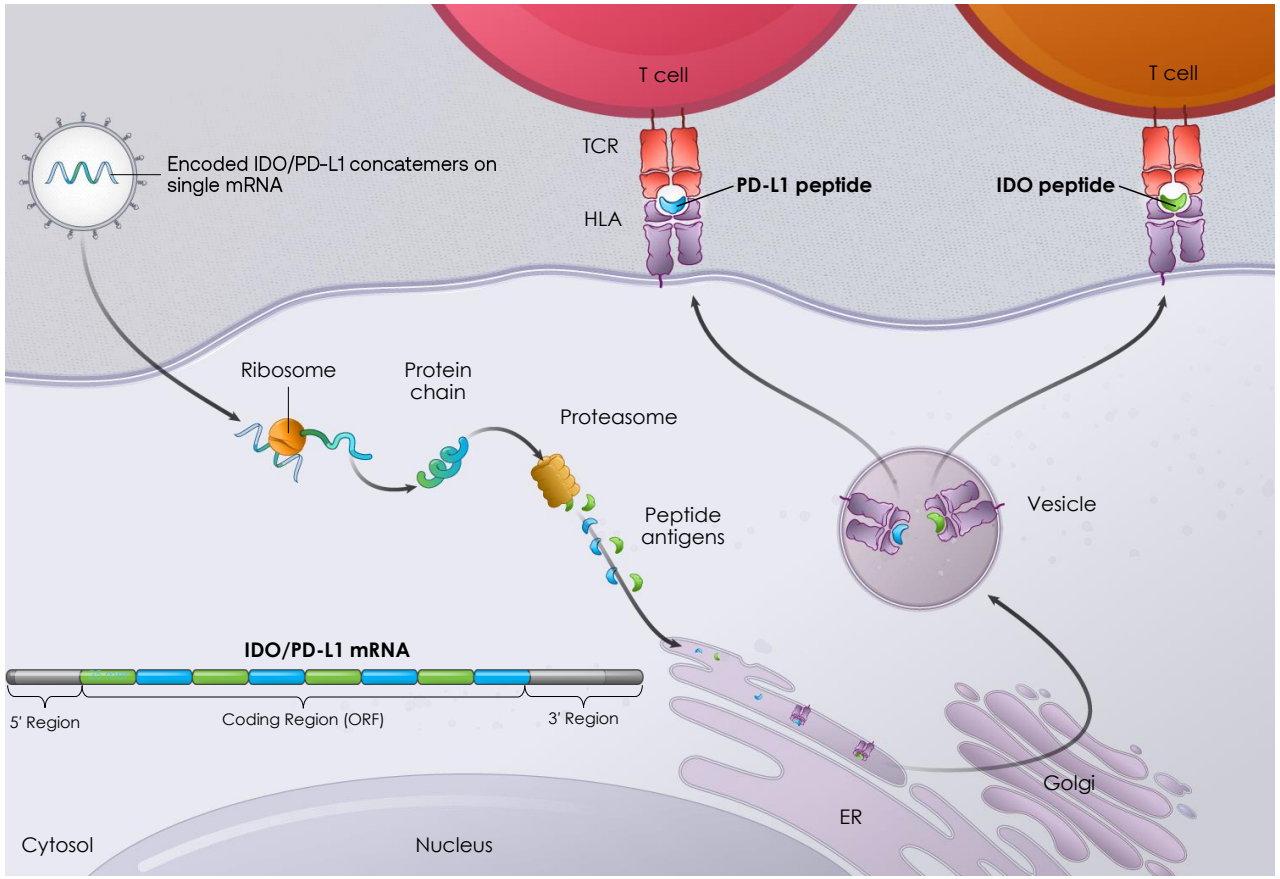
Stimulate effector T cells that target and kill suppressive immune and cancer cells that express high levels of target checkpoint antigens:

- Pre-existing IDO- and PD-L1 specific T cells have been identified in cancer patients
- IDO- and PD-L1-specific T cells can kill immunosuppressive (regulatory) immune cells and cancer cells that overexpress IDO and PD-L1 checkpoints
- Our vaccine can expand IDO- and PD-L1 specific T cells in pre-clinical models
- Vaccine induced direct tumor killing can facilitate recognition of tumor-associated antigens by other cytotoxic T cells leading to more tumor killing
- Systemic PD-1/PD-L1 blockade may further amplify the effect

Initial indications

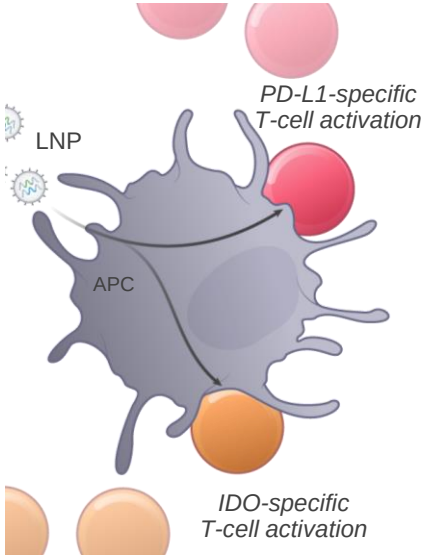
1L cutaneous melanoma stage IIIB+ and 1L NSCLC

Phase 2 study ongoing

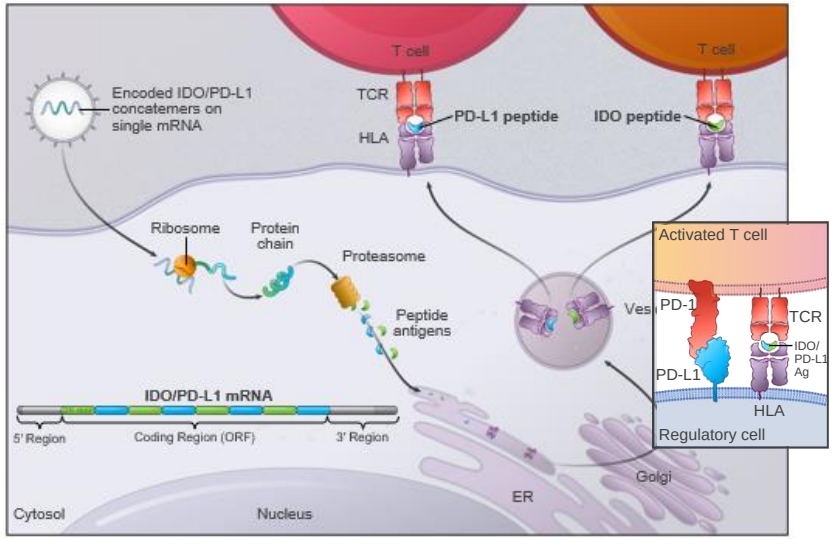


© 2025 Moderna, Inc. All rights reserved.

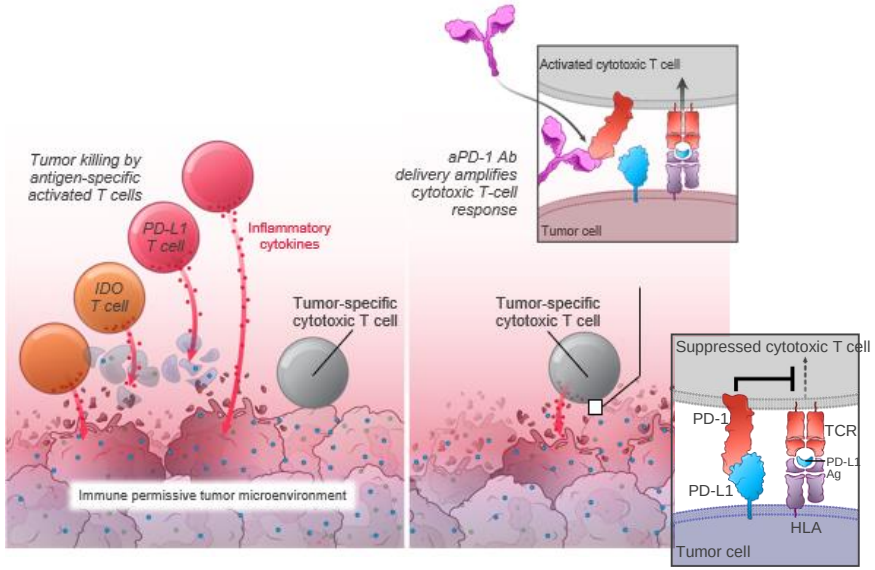
mRNA-4359 mechanism of action



Encoded IDO/PD-L1 concatemers on a single mRNA formulated in lipid nanoparticles is administered through intramuscular (IM) injection.



Polypeptides encoding immunogenic sequences are translated from mRNAs released into the cytosol of antigen presenting cells, are processed via the antigen presentation machinery, and displayed via HLAs to prime and boost specific T cell clones against IDO and PD-L1.



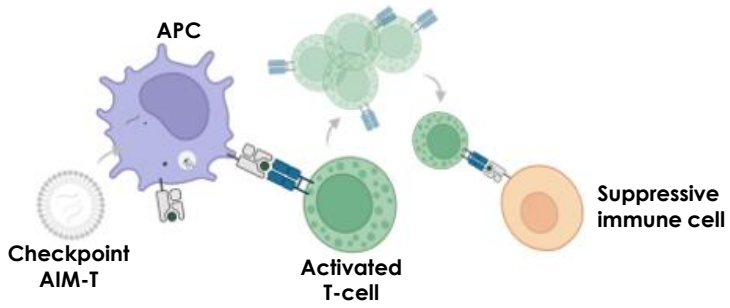
Cancer cell killing and the reduction of regulatory immune cells within the tumor microenvironment by IDO/PD-L1-specific activated T cells. This creates an immune-permissive tumor microenvironment. Further T cell priming leads to recognition of additional tumor-associated antigens and to tumor killing by additional tumor-specific cytotoxic T cells.

Systemic PD-1/PD-L1 blockade may further amplify the effect, leading to further immune activation and superior disease control.

© 2025 Moderna, Inc. All rights reserved.

Checkpoint AIM-T (mRNA-4359) is ongoing in Phase 1/2 study; now enrolling Phase 2 with additional indications planned

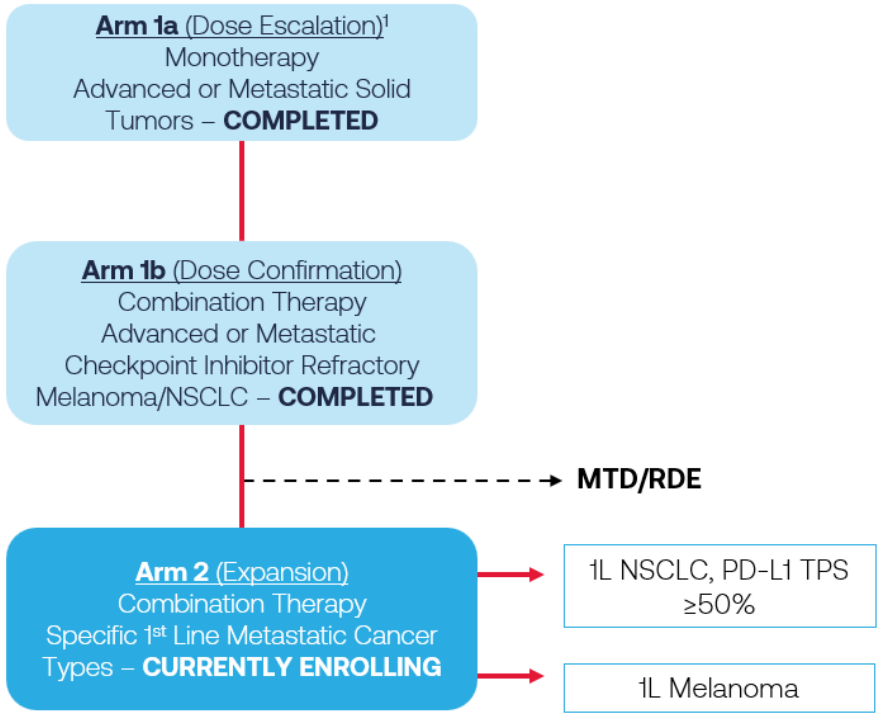
Immune-targeted antigen therapy



Harnessing T-cells with off-the-shelf cancer antigen therapies

- Encodes for PD-L1 and IDO
- Targets both immunosuppressive cells and cancer cells

Study design and key objectives



- **Safety and tolerability** of mRNA-4359 alone and in combination with pembrolizumab
- **Antitumor activity** of mRNA-4359 alone and in combination with pembrolizumab (ORR, DCR, DOR, PFS)
- **T-cell profile changes** (peripheral and tumor) after treatment of mRNA-4359 alone or in combination with pembrolizumab

Note: for more information about Checkpoint AIM-T, see the Checkpoint Program Pack

1. Link to 2024 ESMO presentation

© 2025 Moderna, Inc. All rights reserved.

Medical and scientific presentations

ESMO 2024 (Overview and Phase 1b data)

https://s29.q4cdn.com/435878511/files/doc_presentations/2024/Sep/17/mrna-4359-esmo-poster-2024.pdf

ASCO 2023 (Trial in progress)

https://s29.q4cdn.com/435878511/files/doc_presentations/2023/Jun/02/checkpoint-trial-in-progress-asco-2023.pdf

© 2025 Moderna, Inc. All rights reserved.

Forward-looking statements

This presentation contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, as amended, including regarding development candidate activities and clinical studies and expected market demand. In some cases, forward-looking statements can be identified by terminology such as “may,” “should,” “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 those described in Moderna’s most recent Annual Report on Form 10-K filed with the U.S. Securities and Exchange Commission (SEC) and in subsequent filings made by Moderna with 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 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 referenced on the first page.

© 2025 Moderna, Inc. All rights reserved.