Checkpoint vaccine (mRNA-4359)

Last updated: November 2nd, 2023

Modality	Program	ID #	Preclinical development	Phase 1	Phase 2	Phase 3	Commercial	Moderna rights
Systemic secreted & cell surface therapeutics	Relaxin *Heart failure*	mRNA-0184						Worldwide
	PD-L1 *Autoimmune hepatitis*	mRNA-6981						Worldwide
Cancer vaccines & therapeutics	Individualized neoantigen therapy (INT)	mRNA-4157						50-50 global profit sharing with **Merck**
	KRAS vaccine	mRNA-5671						Worldwide
Intratumoral Immuno-oncology	Checkpoint vaccine	**mRNA-4359**						Worldwide
	OX40L/IL-23/IL-36γ (Triplet) *Solid tumors/lymphoma*	mRNA-2752						Worldwide
Rare disease intracelular therapeutics	Propionic acidemia (PA)	mRNA-3927						Worldwide
	Methylmalonic acidemia (MMA)	mRNA-3705						Worldwide
	Glycogen storage disease type 1a (GSD1a)	mRNA-3745						Worldwide
	Ornithine transcarbamylase deficiency (OTC)	mRNA-3139						Worldwide
	Phenylketonuria (PKU)	mRNA-3210						Worldwide
Inhaled Pulmonary Therapeutics	Crigler-Najjar syndrome type 1 (CN-1)	mRNA-3351						Provided to **ILCM** free of charge
	Cystic fibrosis (CF)	VX-522						**Vertex** to pay milestones and royalties

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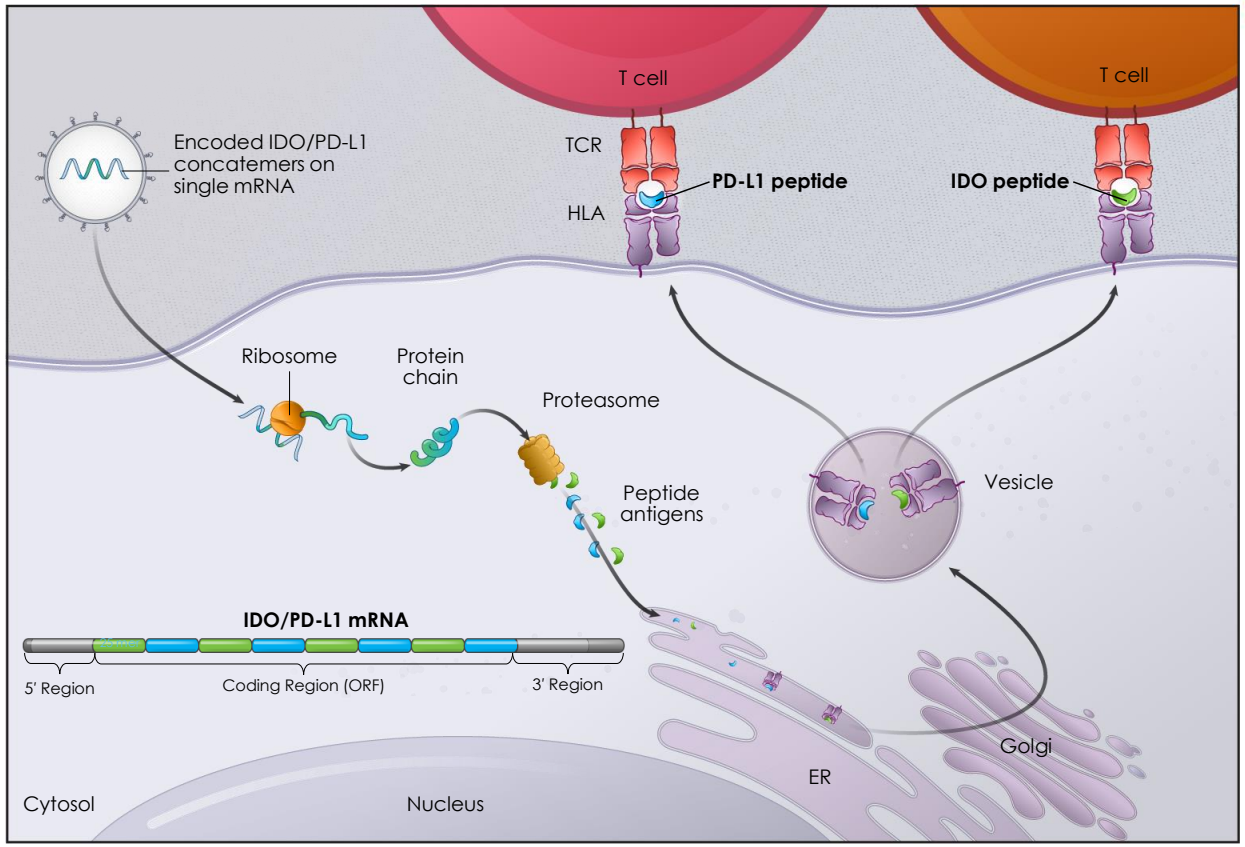
Checkpoint vaccine (mRNA-4359) aims to promote anti-checkpoint T-cell responses

- **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 1 study ongoing**



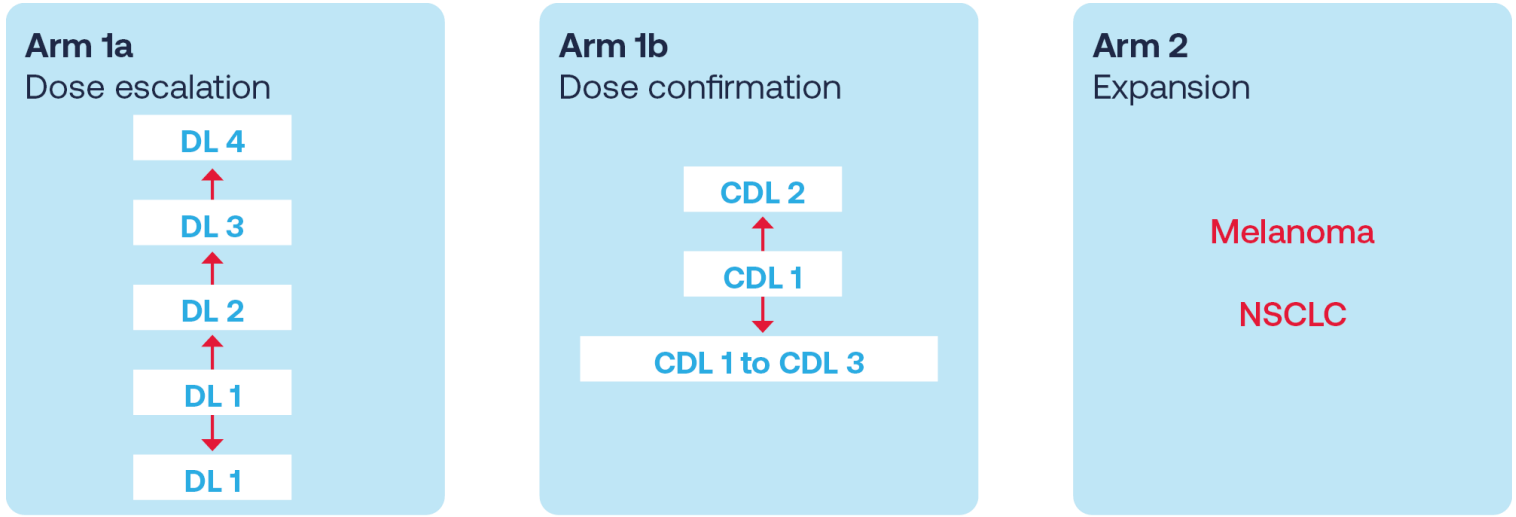
Checkpoint vaccine Phase 1 study objectives and endpoints

Primary objective

To assess the safety and tolerability of mRNA-4359 administered alone and in combination with pembrolizumab

Secondary objective

- To assess the antitumor activity of mRNA-4359 alone and in combination with pembrolizumab
- To measure and assess T-cell profile changes in both the periphery and in the tumor after the administration of mRNA-4359 with or without pembrolizumab



Estimated enrollment: 194 patients

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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 the ability of Moderna's checkpoint vaccine candidate to promote anti-checkpoint T-cell responses. 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.