

# Interleukin 12 (IL-12) (MEDI1191)

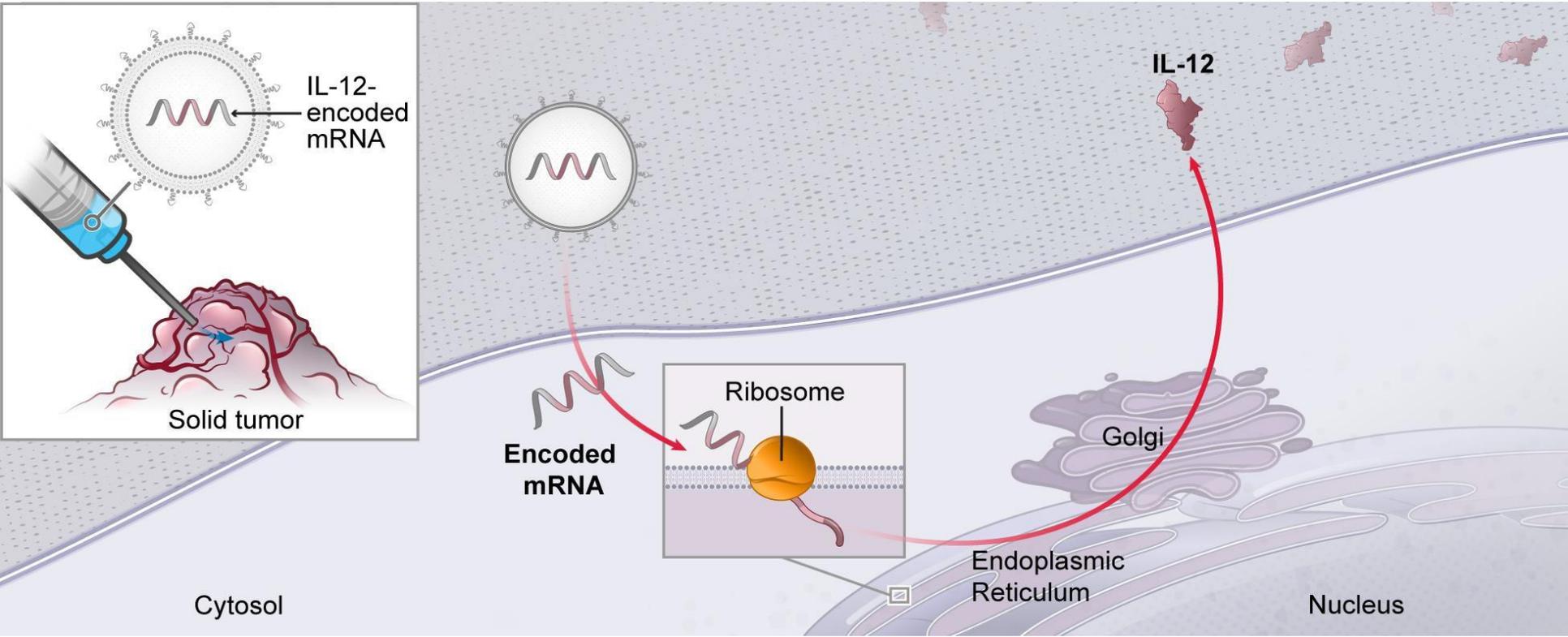
Last program update: May 7, 2020

Modality	ID #	Program Indication	Preclinical development	Phase 1	Phase 2	Phase 3 and commercial	Moderna rights
 Intratumoral immunology	mRNA-2416	OX40L Solid tumors/lymphoma Advanced ovarian cancer		Solid tumors/lymphoma	Ovarian		Worldwide
	mRNA-2752	OX40L/IL-23/IL-36γ (triplet) Solid tumors/lymphoma					Worldwide
	<b>MEDI1191</b>	IL-12 Solid tumors					50-50 U.S. profit sharing; AZ to pay royalties on ex-U.S. sales

**Phase 1 study of MEDI1191 ongoing; study run by AstraZeneca**

# mRNA-encoding IL-12 (MEDI1191)

mRNA-encoded cytokine to activate tumor microenvironment



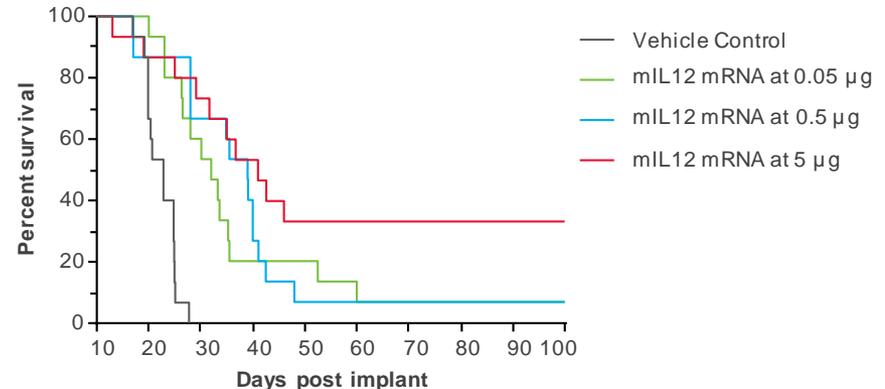
# IL-12 (MEDI1191) overview

## Powerful immunomodulatory cytokine well-suited for local delivery

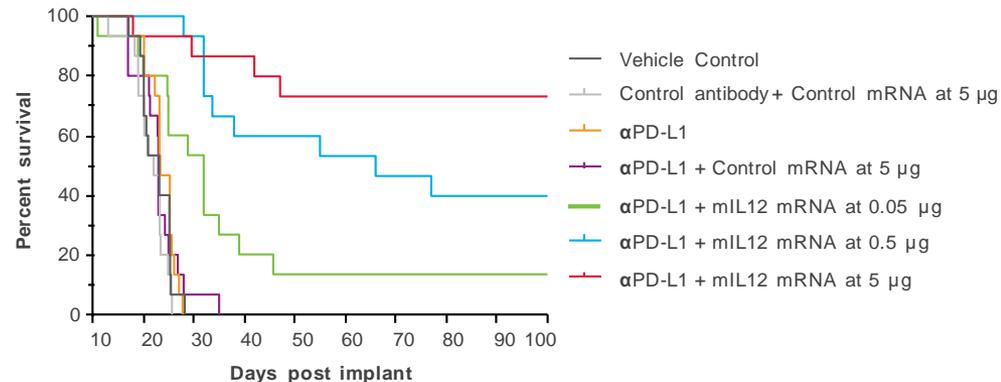
Species:  
**Mouse**

- IL-12: potent immune modulator typically associated with a type 1 immune response and production of interferon-gamma
- Clinical development of systemically administered recombinant IL-12 has been hampered by systemic toxicity
- We have demonstrated well-tolerated intratumoral doses of IL-12 mRNA induce complete responses in multiple mouse models of cancer, exert abscopal effects on distal tumors, and yield protective immunity
- Clear rationale for the combination of IL-12 and PD-1/PD-L1 blockade

Approximately 30% complete responders with highest dose tested for mL12 mRNA in MC38 mouse model study



≥70% complete responders at highest tested dose for mouse IL12 mRNA with αPD-L1 antibody in MC38 mouse model study



**Moderna concept: Intratumorally-administered mRNA encoding IL-12 to activate tumor microenvironment**

# Forward-looking statements

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