

// 15 DECEMBER 2020

eTheRNA immunotherapies & Frame Therapeutics are awarded EUR 1.9 million Eurostars research grant for their novel cancer vaccine collaboration

Niel (Belgium) & Amsterdam (Netherlands)

A collaborative project between eTheRNA immunotherapies NV and Frame Therapeutics has been awarded a Eurostars grant totalling EUR 1.9 million for the development of a therapeutic vaccine for the treatment of kidney cancer. The Eurostars program aims to stimulate partnerships between European SMEs and start-ups to foster international collaboration and development of innovative technologies. eTheRNA immunotherapies and Frame Therapeutics began collaborating early in 2020, deploying mRNA technologies to develop novel cancer vaccines based on unique genetic mutations in patient tumours to stimulate a patient's immune system against the tumour.

Errors in DNA replication can produce inserts or deletions of individual nucleotides and result in "frameshift" mutations, which can produce altered proteins recognized as non-self by the immune system. Some of these frameshift-derived neoantigens are shared across different patients with similar types of cancer. Frame Therapeutics has defined a set of such common frameshift mutations ("FRAMES") that can collectively be used as vaccine targets for the treatment of specific subsets of cancer patients.

In this collaboration a selection of FRAMES that occur widely in kidney cancer will be encoded in a novel mRNA vaccine to be developed by eTheRNA immunotherapies. The mRNA vaccine, combined with eTheRNA's novel, clinically validated mRNA immune stimulant, TriMix, should provide the optimum cellular immune response required to promote the effective killing of tumour cells.

Stefaan de Koker, Director of Discovery at eTheRNA immunotherapies commented: "We look forward to progressing this collaborative vaccine project and using these new funds granted in Belgium by VLAIO (Flanders Innovation & Entrepreneurship) to advance pre-clinical studies ahead of human trials. We are entering a new phase of cancer vaccine innovation and aim to be in the forefront of new therapies to treat cancer by combining TriMix with Frame's neoantigens."

Wigard Kloosterman, CSO of Frame Therapeutics commented: "We are thrilled by the opportunity to combine two innovative technologies in the field of cancer immunotherapy to develop novel off-the-shelf cancer vaccines for kidney cancer. Once we have reached proof-of-concept for this technology in pre-clinical experiments, there is enormous potential to apply this vaccine concept to other cancer types."

About eTheRNA Immunotherapies NV

eTheRNA immunotherapies NV is developing immunotherapy and vaccine products for the treatment of cancer and infectious disease from its multiple RNA, formulation and manufacturing technology platforms. The company is headquartered in Belgium and was established in 2013 and its founding shareholders include Progress Pharma and VUB. eTheRNA is supported by an international group of specialised investors; BNP Fortis Private Equity, Boehringer Ingelheim Venture Funds, Everjoy Fortune PTE. LTD, Grand Decade Development Limited, Fund+, LSP, Novalis Lifesciences, Omega Funds, PMV and Ying Zhou Enterprise Management Company Limited who share the Company's ambition to build a world-leading company in the RNA field. To date, the Company has raised €63 million of venture funding. Further details relating to eTheRNA's R&D pipeline can be found at <https://www.etherna.be/immunotherapies-rd-pipeline/>.

About TriMix

The TriMix platform comprises three mRNAs encoding proteins (caTLR4, CD40L and CD70) that work synergistically to deliver optimal activation of dendritic cells. These cells behave as immune response mediators and mobilize the immune system to attack cancer cells through inducing a T-cell response. Clinical proof of concept for

TriMix-based immunotherapies has been established through a series of clinical trials demonstrating safety and clear clinical benefits in advanced melanoma patients. Additional clinical trials are planned for 2021.

About Frame Therapeutics

Frame Therapeutics is a privately funded startup company in the Amsterdam Science Park founded in December 2018. Frame Therapeutics' goal is to develop its proprietary approach for immunotherapy against cancer, which is based on precise analysis of the DNA and RNA of the tumor of a patient, and using that information to supply the best vaccine against properties specific for the tumor. The strong anti-tumor immune response elicited by Frame vaccines may contribute to major clinical benefits for patients with cancer.

About Frame Technology

Frame Therapeutics' neoantigen technology is based on the identification of a large number of shared neoantigens, which result from frameshift mutations in tumors. Although the majority of frameshift mutations occur at different positions in a gene, the resulting novel protein products are common to large numbers of tumors from different patients. Combined with the long stretches of novel amino acid sequences encoded by frameshifts, these neoantigens represent attractive and highly immunogenic targets for cancer immunotherapy.