
Agenus’ NEXT GENERATION CANCER VACCINE PLATFORMS


We design our vaccines to target neoantigens that are specifically presented on tumor cells.

We identified 100’s of HLA ligands that are shared, specifically presented on tumor cells, and recognized by central memory T cells from healthy donors.

The Agenus Immunogenic Mutation (AIM™) workflow comprises rapid multi-sample NGS profiling followed by advanced bioinformatics and computational immunology algorithms for mutation characterization and selection.

The AIM™ algorithm incorporates best-in-class mutation identification and HLA binding algorithms. Further, AIM™ integrates proprietary findings using MS ligandome data, immunological response in humans and mice, and TCR functionality.

AIM™ IDENTIFIES IMMUNOGENIC MUTATIONS

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TUMOR SPECIFIC NEO-ANTIGENS

PHASE 1 AutoSynVax™ TRIAL

Multiple sites
Enrollment completed
First patient successfully dosed
Safety and immunological readout expected 2017
Planned combination with immunomodulatory agents

PHASE 1 AutoSynVax™ TRIAL

VACCINE STRATEGY

Robust vaccine format
Highly specific tumor targets
TME & immunomodulatory agents

VACCINE FORMAT

Synthetic long peptides

CLINICAL IMMUNE RESPONSE

Under compassionate use, we treated a metastatic hepatocellular carcinoma (HCC) patient. AIM™ identified 24 non-synonymous mutations and 13 prioritized for vaccine manufactured. The patient was dosed every two weeks. The T-cell response was measured by ELISpot using pooled short mutation-containing peptides.

SYNERGIZES WITH mAbs

Agenus vaccines mediates tumor control (left), immune memory (middle) and phospho-peptide recognition (right).

PRECLINICAL IMMUNOLOGICAL & TUMOR RESPONSE

AutoSynVax™

PhosphoSynVax™

Peptide Pool

Neoantigen Peptide Pool

Pre-assembled tumor-type-specific PTT vaccines

Ready-to-ship

Phosphorylation

Glycosylation

Methylation

Altered Self Antigen

Patient tumor

PTTs characterized from multiple tumor types

Synthesize tumor-type-specific PTTs

Pre-assembled tumor-type-specific PTT vaccines

Patient Vaccine

Sequence tumor genome

Identify and functionally characterize mutations

Synthesize individualized vaccine

TUMOR SPECIFIC NEO-ANTIGENS

SHARED PHOSPHO-NEOANTIGENS

Primary tumor

NHC enrichment

Peptide elution

Phospho-enrichment

Mass spectrometry

Pre-clinical ImmunoLOGICAL & Tumor RESPONSE

Agenus NATO-001 at the NCI MDA-MB-231 breast cancer cell line

Viral Peptides

Autologous Peptides

HSP70

QS-21 Stimulon® saponin

Neoantigen Peptide

Neutralizing Control

Viral Peptide

Neutralizing Control

ASV™

ASV™ + Isotype Control

ASV™ + α-CTLA4

ASV™ + Isotype Control

PhosphoSynVax™ can enable rapid APC uptake through scavenger receptors CD91

HSP70 as a carrier enables rapid T-cell uptake through scavenger receptors CD91

Long peptides enable endogenous peptide processing in APCs