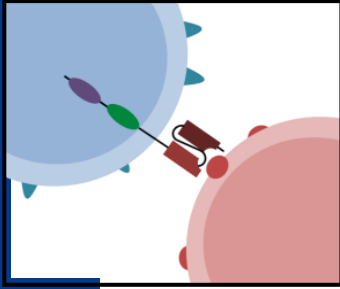


ENGINEERED ISOFORMS OF HUMANIN TO IMPROVE T-CELL THERAPY



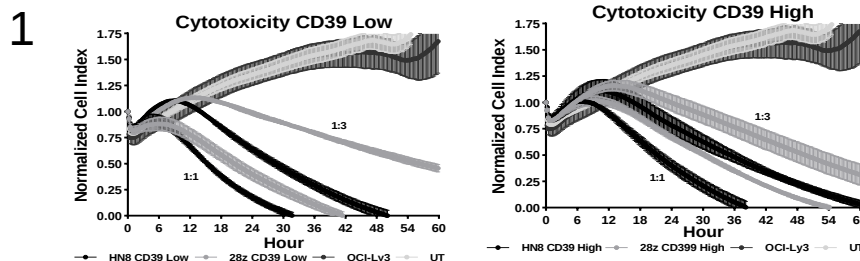
Humanin is a mitochondrial-derived peptide that plays a crucial role in many biological processes including promotion of anti-apoptotic activities, increase in metabolic fitness, inflammatory response, and prevention of degradation in T-cells. Certain isoforms of humanin were shown to be differentially upregulated in CAR-T patients who achieved durable responses. Moffitt investigators have created mutant humanin isoform protein sequences that selectively target expression of humanin proteins in patient T-cells. 16 novel protein sequences targeting cytoprotective potency, ubiquitination, protein concentration, and secretion have been created. The relatively small size of the sequences grant immense translational potential. Thus, we believe the administration of these constructs can greatly augment and improve current T-cell therapies.

COMMERCIAL OPPORTUNITY

Approved CAR-T	Company	Target	2022 Drug Sales (worldwide)	Drug Price
Kymriah	Novartis	Anti-CD19	\$536 M	\$475,000
Yescarta	Gilead	Anti-CD19	\$1,160 M	\$373,000
Tecartus	Gilead	Anti-CD19	\$299 M	\$373,000
Breyanzi	BMS/Juno Therapeutics	Anti-CD19	\$182 M	\$410,300
Abecma	BMS/Bluebird Bio	Anti-BCMA	\$388 M	\$481,499
Carvykti	Legend Biotech/Janssen	Anti-BCMA	N/A	\$465,000

TECHNOLOGY

Figure 1 shows that humanin co-expression enhances Patient CAR-T cell cytotoxicity. Figure 2 shows that humanin co-expression reduces CAR-T cell apoptosis.



PUBLICATION/PATENT

- Provisional Patent filed for Drs. Locke and Atkins

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LICENSING OPPORTUNITY

