Mobilizing the Patient's Immune System to Treat Serious Diseases

April 15, 2025

CUE® BIOPHARMA

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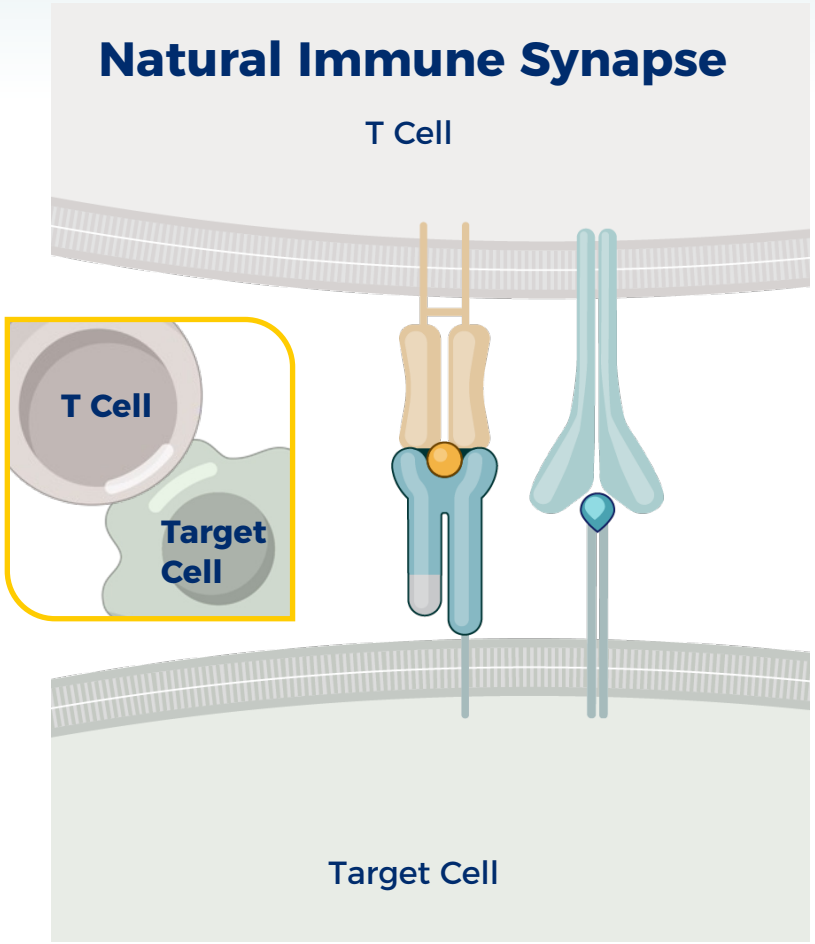
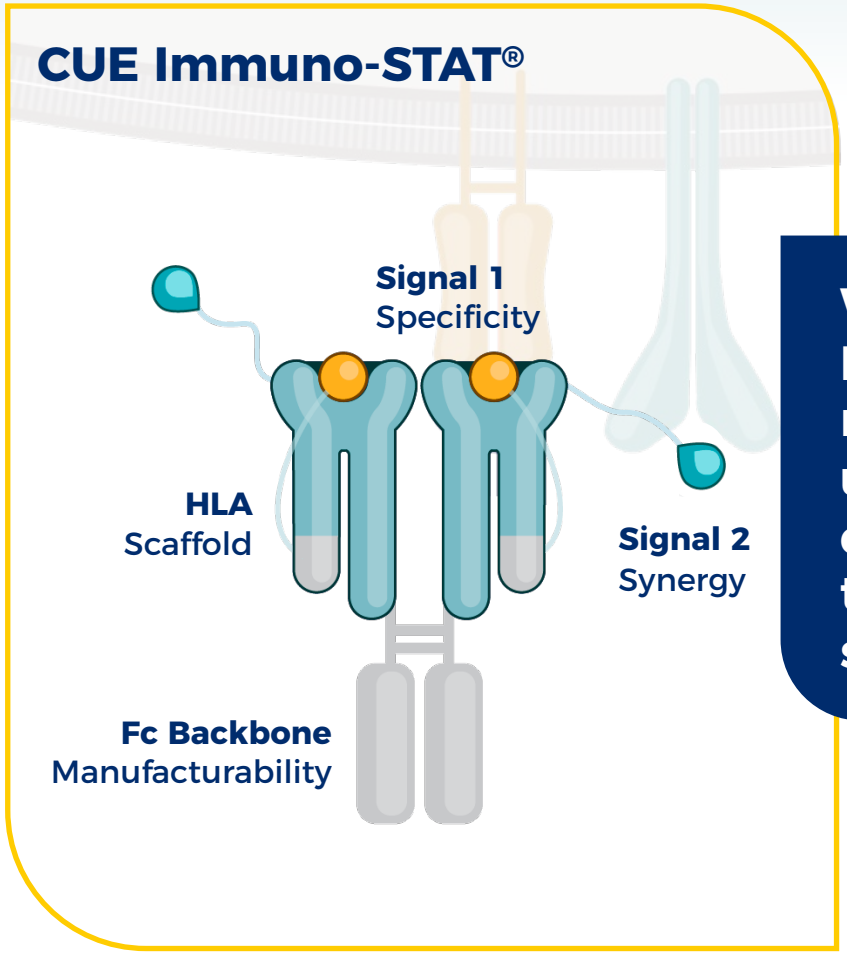
Our Mission:
To Develop Therapies to Mobilize the Immune System

Our Solution

Precise Activation and Expansion of Disease Relevant T Cells





We have engineered our Immuno-STAT platform to mimic nature's signals using interchangeable components to activate and expand specific T cell populations

Strategic Collaboration to Accelerate Long Term Value

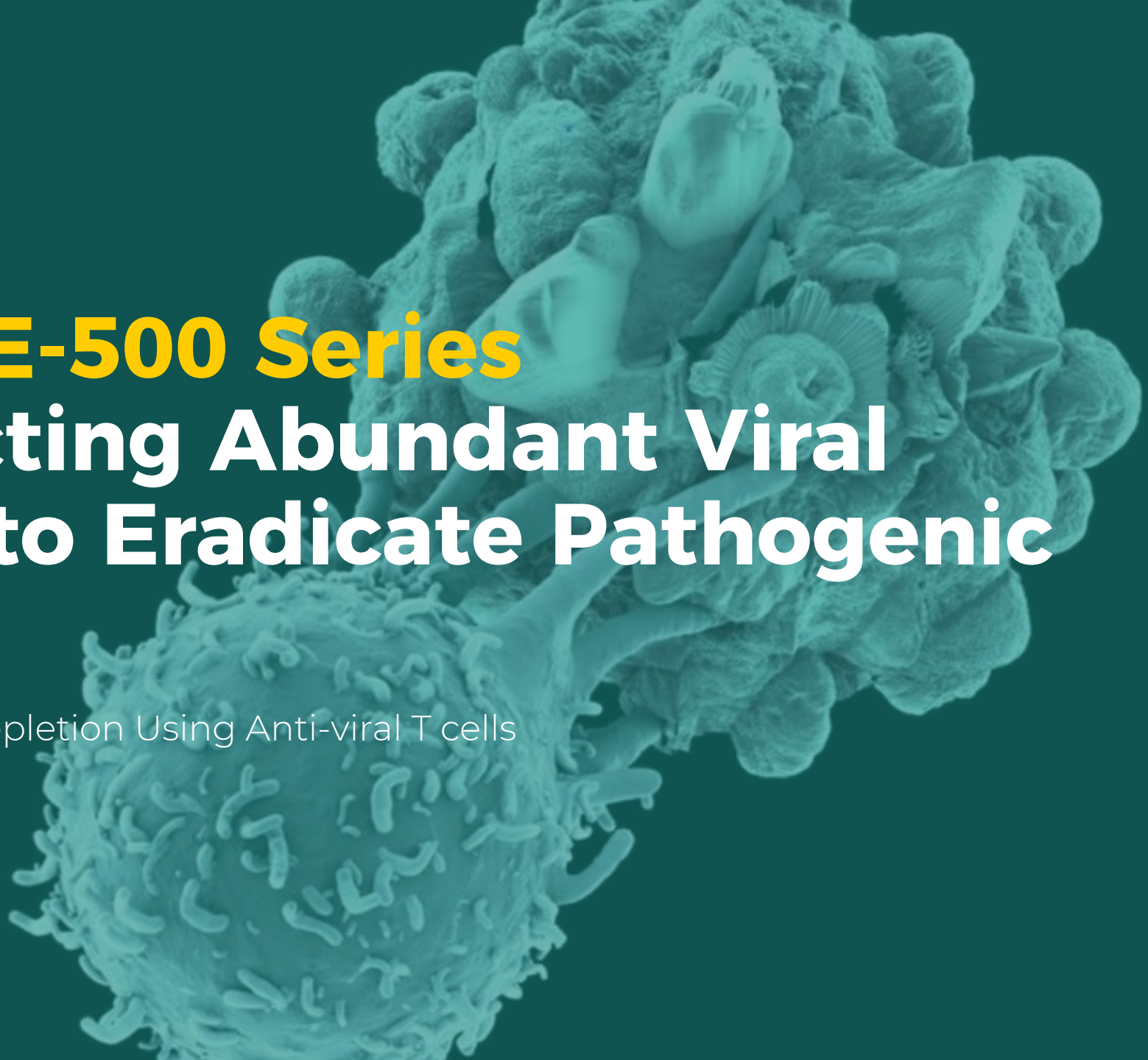
Focus on Advancing CUE-501 to Maximize Shareholder Value

BOEHRINGER INGELHEIM COLLABORATION

CUE-501

- **Accelerate development**
- **Develop CUE-501, a novel bispecific for B cell depletion**
- **$12 million upfront payment, plus research support payments**
- **Up to $345 million in success-based milestone payments and royalties**

Join Us
For a Virtual R&D Update Planned for Mid-May 2025

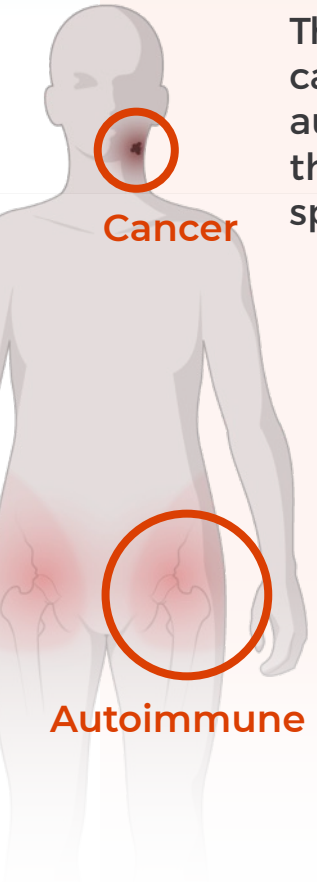


The CUE-500 Series
Redirecting Abundant Viral T Cells to Eradicate Pathogenic Cells

Pathogenic Cell Depletion Using Anti-viral T cells

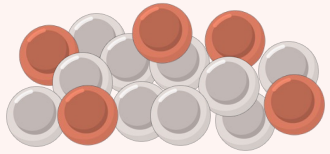
Immune Imbalance Underlies the Pathology in both Cancer and Autoimmune Disease

THE PROBLEM



The immune system fights cancer and prevents autoimmune disease through activation of specific T Cell populations

T CELLS

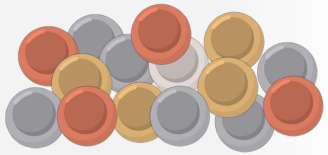


However, disease develops when there is an immune imbalance

Too few or too weak function of necessary T Cell types can allow cancer and autoimmune disease to manifest

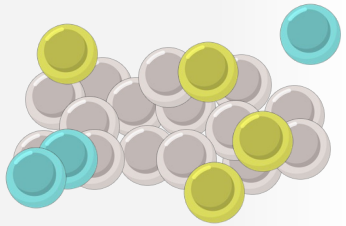
INADEQUATE APPROACHES

Broad, Indiscriminate Activation of T Cells



- Broad or systemic immune activators like IL-2 often lead to toxicities and/or self-reactivity conditions

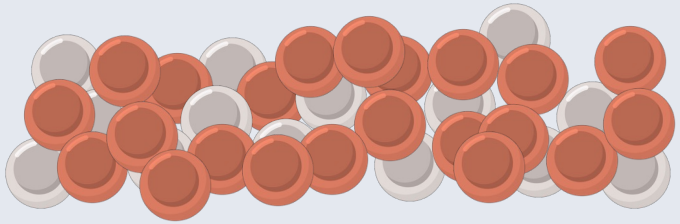
Fabrication of Disease-Relevant T Cells



- CAR-Ts are challenged by patient pre-conditioning regimens, logistics and durability

OUR SOLUTION

Selectively Expand and Activate the Immune System to Restore Function



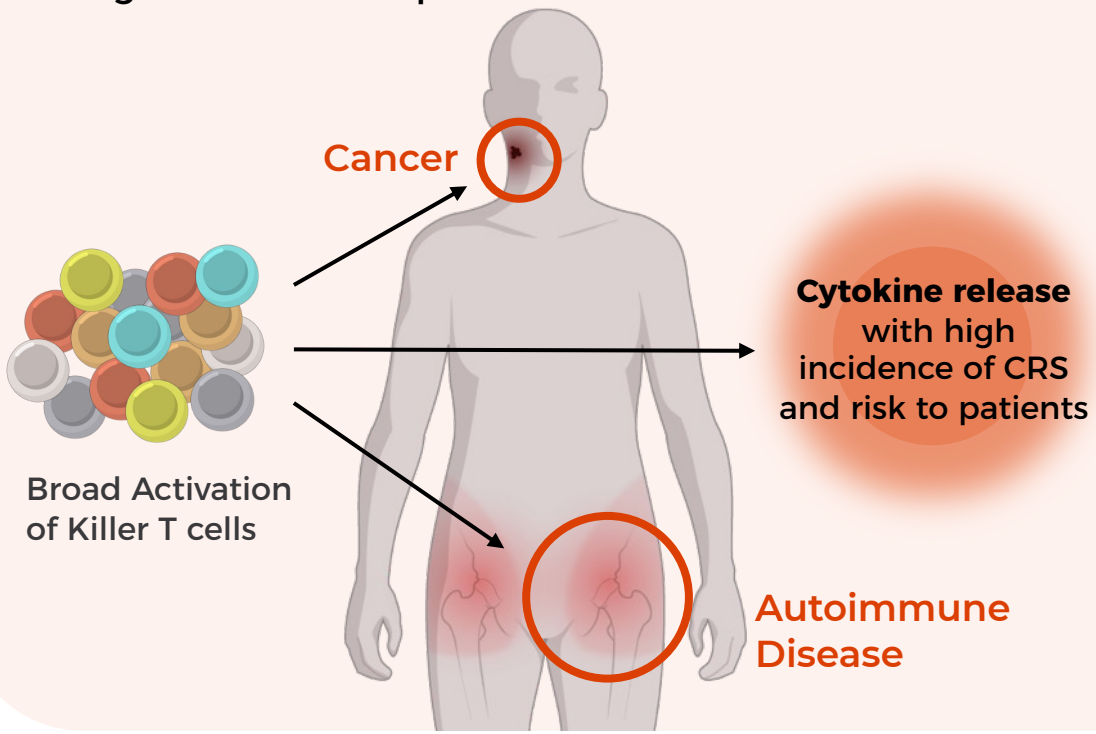
- Our engineered biologics are designed to mimic nature's signals to selectively expand and activate specific immune cells and restore immune homeostasis

CUE-500 Series

Provides a Platform Opportunity for Redirected T Cell Killing Across Multiple Large Market Opportunities

THE PROBLEM

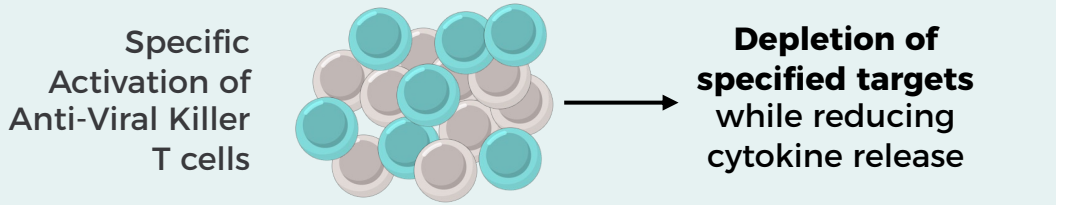
Depletion of pathogenic cells through non-selective stimulation of killer T cells leads to high incidence of CRS and significant risk to patients



OUR SOLUTION

Deplete Target Cells Using Natural & Abundant Anti-Viral T Cells

- Paints target cell with a common virus-specific epitope
- Anti-viral killer T cells recognize target cells as foreign
- Anti-viral killer T cells selectively eradicate targeted pathogenic cells: B cells, cancer cells, mast cells, & more
- Limits T cell activation to a restricted T cell population rather than broad activation, reducing risk of cytokine release syndrome (CRS)
- Incorporates proven HLA framework of CUE-100 series

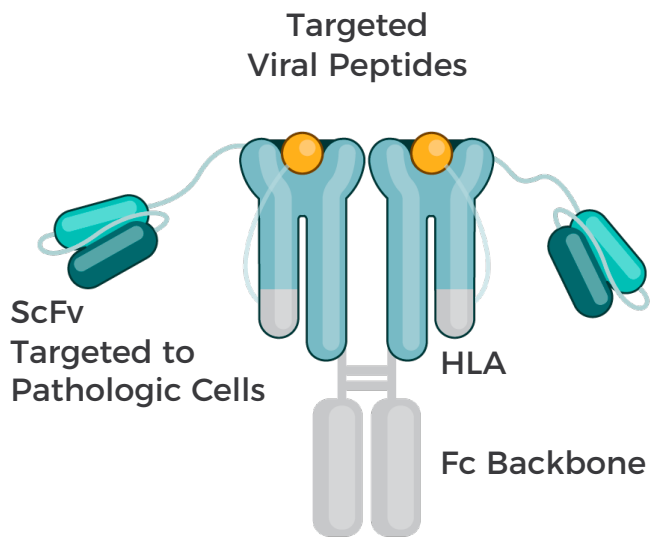


CUE-500 Series

Redirecting Patients' Existing Anti-Viral Killer T cells to Target Cancer and Autoimmune Diseases

Mechanism of Action	• Paints target cell with a virus-specific epitope • Redirects anti-viral killer T cells to eradicate pathogenic B cells, cancer cells, mast cells, and others
CUE-501 Development Path	• Selective B cell targeting • In Vitro Proof of Mechanism and pharmacology
Strategic Opportunities	• Opportunity across cell types and indications in both oncology and autoimmune disease • Potentially significant tolerability from CUE-100 series

Potential to Target Multiple Types of Pathogenic Cells

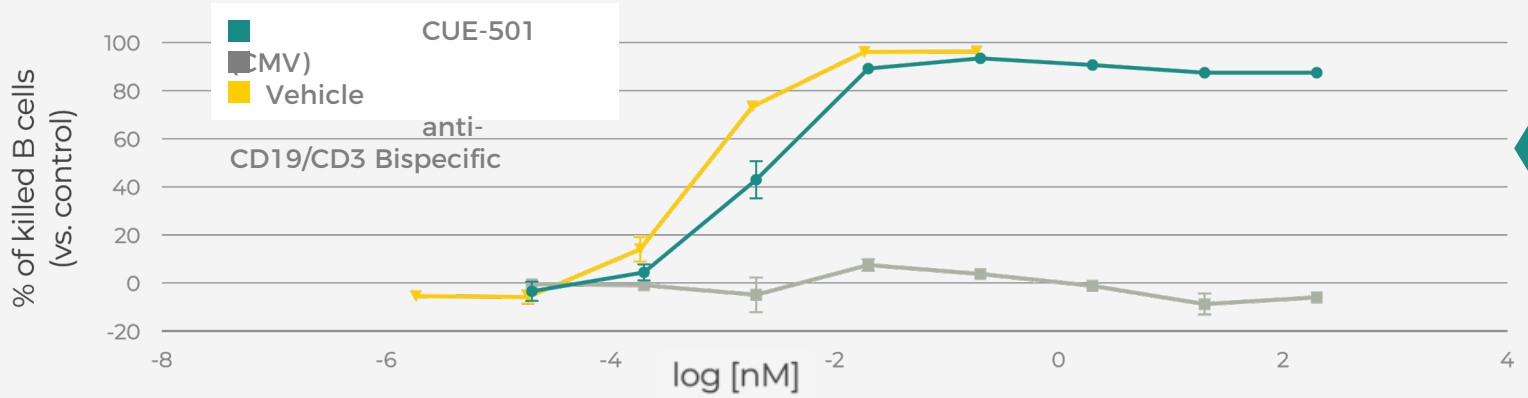


Pre-IND Enabling, Studies Underway

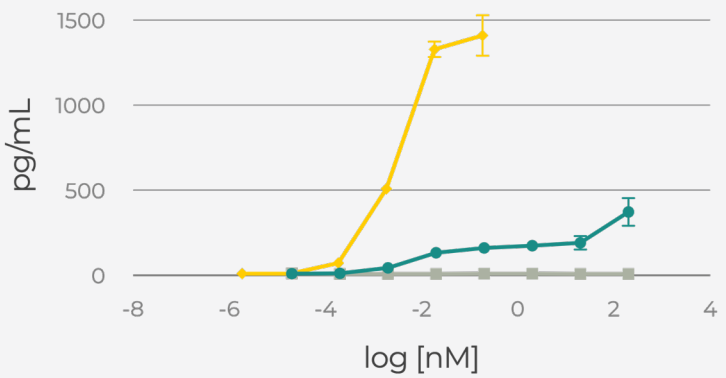
CUE-501: B Cell Depletion

Designed to Direct Selective Memory T cells to Deplete B cells to Address Autoimmune and Inflammatory Diseases

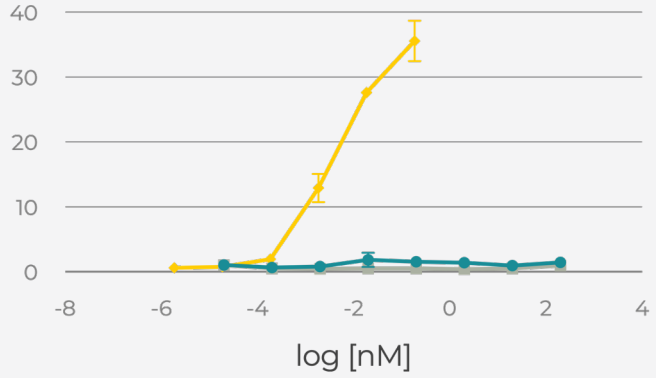
In Preclinical Studies, CUE-501 Maintains Activity with No Evident Cytokine Release



IFNγ (pro-inflammatory marker)



TNFα (pro-inflammatory marker)



CUE-501 appears to kill human B cells with efficacy equivalent to leading bispecifics

Holds the Promise of Restoring Quality of Life for Patients

CUE-501 significantly reduced cytokine production relative to leading bispecifics

CUE-500 Series

Designed to Provide Superior Differentiation for Target Cell Depletion

	CUE-501 T cell Engager (Preclinical)
Selective activation of trained virus-specific killer T cells ("effector VST cells")	**YES**
Takes advantage of **effector VST cells** present in circulation and diseased tissue	**YES**
Avoids broad/systemic immune activation (CRS, ICANS, other toxicities, including self-reactivity)	**YES**
Off-the-shelf administration and amenable to sub-cutaneous dosing	**YES**
Avoid patient pre-conditioning regimens and enable out-patient administration	**YES**
Manufacturing and supply chain	**Standard biologic**

CUE-500 Series

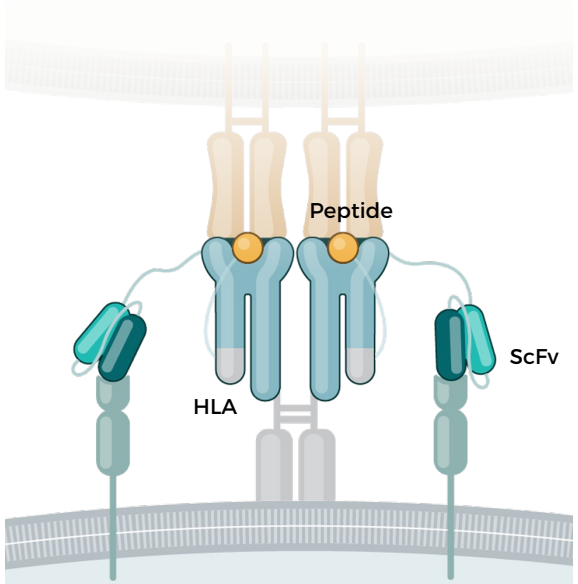
Designed to Provide Superior Differentiation for Target Cell Depletion

	Clinical CAR-T Cell Therapy	Clinical Pan T cell Engagers (e.g., anti-CD3/CD19)	CUE-501 T cell Engager (Preclinical)
Selective activation of trained virus-specific killer T cells ("effector VST cells")	NO	NO	**YES**
Takes advantage of **effector VST cells** present in circulation and diseased tissue	NO	NO	**YES**
Avoids broad/systemic immune activation (CRS, ICANS, other toxicities, including self-reactivity)	NO	NO	**YES**
Off-the-shelf administration and amenable to sub-cutaneous dosing	NO	**YES**	**YES**
Avoid patient pre-conditioning regimens and enable out-patient administration	NO	**YES**	**YES**
Manufacturing and supply chain	**Complex**	**Standard biologic**	**Standard biologic**

CUE-500 Series

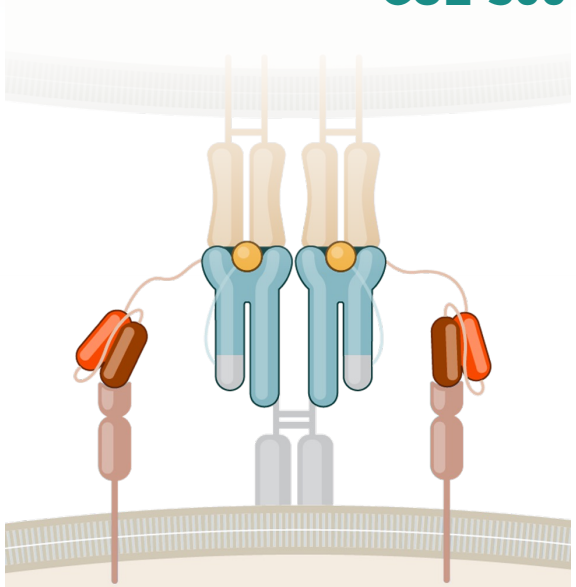
Precision Therapeutics Redirect Anti-Viral Killer T Cells to Eradicate Pathogenic Cells

CUE-500 SERIES



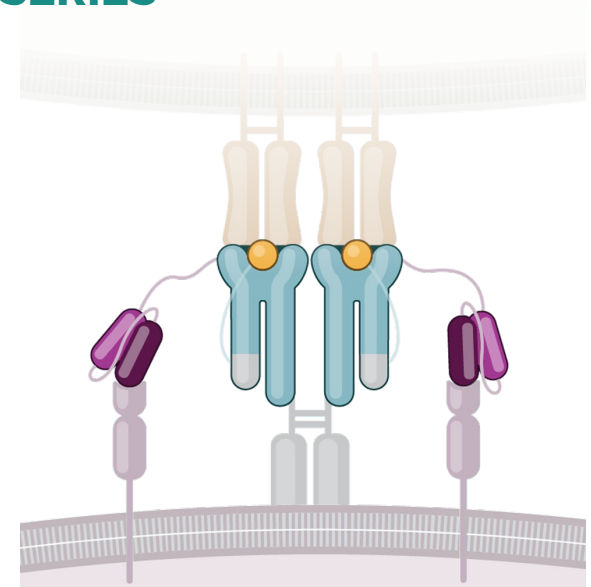
B Cell

- CD19 (CUE-501)
- BCMA
- CD20
- CD79
- CD138
- CD39

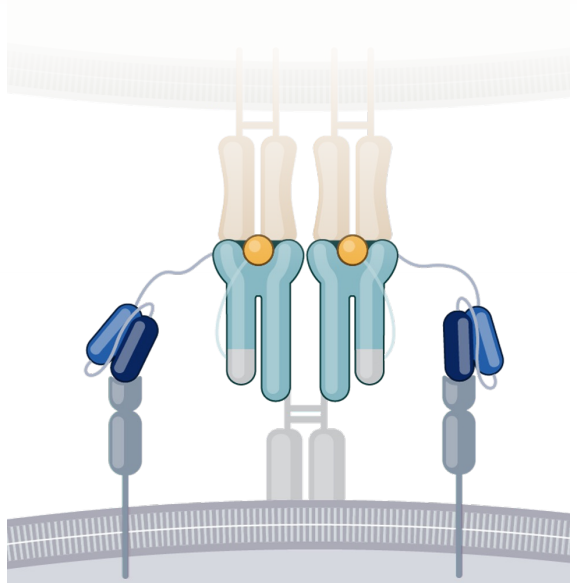


Cancer

- HER2
- PSMA
- TROP2
- Others



Fibrosis, etc.



Autoimmune / Allergy

Strategic Collaboration and License Agreement

CUE-501

Partnering with Boehringer Ingelheim to Accelerate Development of CUE-501

Upfront	$12 million
R&D Funding	Providing research support payments
Milestones and Royalties	Up to $345 million in success-based milestone payments, beginning with two preclinical development milestones, plus royalties on net sales
Focus	Autoimmune and inflammatory diseases with potential to expand into other applications where B cells play a key role

Strategic Boehringer Ingelheim Partnership

Acceleration. Validation.

ACCELERATING CUE-501

Dedicated resources with the potential to accelerate the drug development path, starting with R&D support

VALIDATING

A strategic fit with the expansion of Boehringer Ingelheim's autoimmune and inflammatory disease portfolio

Thank you.