Endogenous Small Molecule Proximity Methylator For Targeted Lysosomal Degradation Of Disease-Causing Proteins

Tech ID: 34823 / UC Case 2025-879-0

BRIEF DESCRIPTION

A novel chemically inducible platform that directs arginine methylation to target proteins, enabling their selective lysosomal degradation.

FULL DESCRIPTION

MrTAC is a protein degradation platform that uses PRMT-mediated arginine methylation to drive lysosomal degradation of disease-relevant proteins. Unlike proteasome-based degraders, it enables elimination of previously inaccessible targets through a fully endogenous, proximity-induced mechanism without genetic manipulation.

SUGGESTED USES

» Therapeutic development for disease-associated proteins resistant to existing degraders.

» Drug discovery and research tools for tissue-specific, endogenous protein degradation and proteostasis studies.

» Platform for next-generation therapeutics, including cancer treatments and proximity-induced small molecules

ADVANTAGES

» Introduces an endogenous, PRMT-driven lysosomal degradation mechanism distinct from proteasome-based approaches and without genetic modification.

» Expands the degradable target space, enabling removal of disease-relevant and previously intractable proteins across diverse cellular contexts.

» Provides a modular, tissue-specific platform using multiple PRMTs to study methylation-dependent lysosomal degrons and proteostasis.

PATENT STATUS

Patent Pending

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OTHER INFORMATION

CATEGORIZED AS

» **Biotechnology**
  » Proteomics
» **Medical**
  » Disease: Cancer
  » Therapeutics
» **Research Tools**
  » Bioinformatics

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