Degrader-Drug Conjugates

Tech ID: 34742 / UC Case 2025-121-0

TECHNOLOGY DESCRIPTION

PRODUCT: Degrader-Drug Conjugates (DDCs): next-generation constructs combining LIPTAC-mediated degradation with delivery of cytotoxic payloads. **LIPTAC** platform: bispecific antibodies that hijack the low-density lipoprotein receptor (LDLR) to drive lysosomal degradation of target extracellular and membrane proteins

DISEASE INDICATION: Oncology (solid tumors including EGFR+, HER2+, PD-L1+ cancers); potential in autoimmune and inflammatory diseases (cytokines, autoantigens, allergens)

UNMET NEED: Current antibody-based therapies (including ADCs and extracellular protein degraders) often show incomplete target degradation (<70%) and limited efficacy; ADCs are less effective in tumors with low-to-moderate antigen expression; Need for more potent, broadly effective biologics that combine targeted degradation with enhanced tumor cell killing

COMPETITIVE ADVANTAGE / DIFFERENTIATION: Significantly enhanced potency compared to conventional ADCs, particularly in low antigen-expressing tumors; Broad applicability across targets and tumor types; Potential to improve therapeutic window

DATA: Demonstrated degradation of key oncology targets (EGFR, PD-L1, HER2) across multiple cell lines; LIPTAC-DDC showed markedly improved potency vs. standard ADC: Picomolar EC50 (e.g., ~4 pM vs. ~1.3 nM for comparator ADC in EGFR+ cells) Retained high efficacy in moderate antigen-expressing cells where ADCs underperform; Lysosomal dependency confirmed via inhibitor studies, supporting mechanism of action

STAGE / FUNDING: Discovery to early validation with prototype molecules and in vitro data. Ongoing work: optimization of biophysical properties and in vivo efficacy (xenograft models). NIH-funded

RELATED MATERIALS

PATENT STATUS

Patent Pending

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OTHER INFORMATION

CATEGORIZED AS

- Biotechnology
- Health

RELATED CASES

2025-121-0

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- Synthetic Degradation Of Extracellular Soluble Proteins

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