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AgRP-Derived melanocortin-5 receptor peptide antagonists

AgRP derived scaffolds composed of natural (Tyr, Ala, Val, Asn) and unnatural amino acids (Dap) with antagonist activity at the mouse MC5R

IP Status: Utility Patent Pending **Application number** #17/113,887

Applications

- Drug development

Technology Overview

Melanocortin-5 receptor (MC5R) has been implicated in metabolic disorders, acne, inflammation, mental disorders and stress. However, the physiological functions of MC5R have not been clearly elucidated due to a lack of potent selective ligands. This novel technology consists of five compounds that have antagonist activity (sub-micromolar) at the mouse MC5R. The proposed compounds are chemical scaffolds derived from agouti-related protein (AgRP), which is an endogenous antagonist for the melanocortin receptor family. This unique pharmacology has never been reported for this scaffold, and thus it could provide crucial therapeutic leads for drug development.

Phase of Development

TRL: 2-3
A total of 5 compounds have been synthesized and evaluated for pharmacological activity in vitro.

Desired Partnerships

This technology is now available for:

- License
- Sponsored research
- Co-development

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Researchers

- **Carrie Haskell-Luevano, PhD** Professor, Department of Medicinal Chemistry
- **Mark Ericson, PhD** Research Assistant Professor, Department of Medicinal Chemistry

References

1. Koerperich, Z.M., Ericson, M.D., Freeman, K.T., Speth, R.C., Pogozheva, I.D., Mosberg, H.I. and Haskell-Luevano, C.(2019) , https://doi.org/10.1021/acs.jmedchem.9b00860, https://doi.org/10.1021/acs.jmedchem.9b00860

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