CMG2 Inhibitory DARPins (CIDs)

ID: 2024-021

Executive Statement:

An innovative protein-based technology designed to offer targeted therapeutic interventions for various diseases, including blinding eye diseases, certain cancers, and non-opioid pain relief for endometriosis.

Technology Overview:

CMG2 Inhibitory DARPins (CIDs) are engineered proteins that bind with high affinity and specificity to the CMG2/ANTXR2 cell surface receptor. Utilizing the ankyrin repeat protein scaffold, these proteins are designed to inhibit the receptor's function, offering a novel approach to treating diseases associated with its activation. This includes conditions like corneal neovascularization, certain metastatic cancers, and providing non-opioid pain relief for endometriosis, with additional diagnostic applications.

Key Advantages:

- Higher affinity and specificity to CMG2/ANTXR2 compared to existing treatments
- Lower antigenicity, reducing the likelihood of antibody resistance
- Effective at significantly lower concentrations than other known ligands
- Potential for broad application in therapeutic interventions and diagnostics

Problems Addressed:

- Lack of effective treatments for certain blinding eye diseases and metastatic cancers
- Need for non-opioid pain relief options for conditions like endometriosis
- Limitations of current treatments due to high antigenicity and low specificity

Market Applications:

- Therapeutic interventions for blinding eye diseases, certain cancers, and endometriosis pain relief
- In vitro and in vivo diagnostics for detecting CMG2/ANTXR2
- Partnerships with pharmaceutical companies for development and commercialization