

Biopharmaceutical Discovery Faculty Search Candidate Seminar

219 Brown Laboratory
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Targeting membrane proteins using chemistry and immunology



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Transmission of information across the cell membrane is essential for communication between cells and multicellular life. Cells communicate through the release of signaling molecules from one cell that act on receptors on the surface of a partner cell. Dysregulation of this signaling leads to disease. Agents that target cell surface receptors, such as peptides and proteins, are common and effective therapeutics, but many drawbacks limit application. We have established new approaches for improving the properties of agents that target cell surface proteins based on chemical methods and immunological tools. We modified the peptide backbone to identify analogues of a peptide used to treat osteoporosis with improved properties. We also improved the potency and selectivity of peptides ligands for activating cell surface receptors through tethering via binding of a linked single domain antibody (nanobody). These approaches hold promise for designing improved receptor ligands and therapeutics.



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