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Research Keywords

GPCRs, GLP-1R, High-throughput screening, Signal transduction, Receptor pharmacology

Academic Career

B.S., 2002, Yantai Normal University; Ph.D., 2009, Shanghai Institutes for Biological Sciences, CAS (advisor: Weidong Le); Postdoctoral Training, 2010-2012, Shanghai Jiao Tong University School of Medicine (advisor: Weidong Le); Assistant Professor, 2012, Shanghai Institute of Materia Medica, CAS; Associate Professor, 2012-2017, Shanghai Institute of Materia Medica, CAS; Professor, 2017-present, Shanghai Institute of Materia Medica, CAS

Selected Publications

Dimerization and antidepressant recognition at noradrenaline transporter. Zhang, H., et al. *Nature.*, 630(8015), 247-254 (2024)

GPCR activation and GRK2 assembly by a biased intracellular agonist. Duan, J., et al. *Nature.*, 620(7974), 676-681 (2023)

Structural insights into the triple agonism at GLP-1R, GIPR and GCGR manifested by retatrutide. Li, W., et al. *Cell Discov.*, 10(1), 77 (2024)

Relief of loperamide-induced constipation by peptidic and small molecule RXFP4 agonists in mice. Yan, S., et al. *Biochem Pharmacol.* 237, 116924 (2025)

Molecular basis of signal transduction mediated by the human GIPR splice variants. Zhao, F., et al. *Proc Natl Acad Sci U S A.* 120(41), e2306145120 (2023)

Structural basis of peptidomimetic agonism revealed by small-molecule GLP-1R agonists Boc5 and WB4-24. Cong, Z., et al. *Proc Natl Acad Sci U S A.* 119(20), e2200155119 (2022)

Structural insights into multiplexed pharmacological actions of tirzepatide and peptide 20 at the GIP, GLP-1 or glucagon receptors. Zhao, F., *Nat Commun.* 13(1), 1057 (2022)

Distinct roles of the extracellular surface residues of glucagon-like peptide-1 receptor in β -arrestin 1/2 signaling. Lei, S., *Eur J Pharmacol.* 968, 176419 (2024)

Why My Lab?

My lab can offer...

High-throughput screening assay and facility, Compound resources, GPCR pharmacological detection and Cryo-EM structure for key GPCRs.