

Calcium-sensing receptor in GtoPdb v.2023.1

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Abstract

The calcium-sensing receptor (CaS, **provisional nomenclature as recommended by NC-IUPHAR [47] and subsequently updated [77]**) responds to multiple endogenous ligands, including extracellular calcium and other divalent/trivalent cations, polyamines and polycationic peptides, L-amino acids (particularly L-Trp and L-Phe), glutathione and various peptide analogues, ionic strength and extracellular pH (reviewed in [78]). While divalent/trivalent cations, polyamines and polycations are CaS receptor agonists [14, 110], L-amino acids, glutamyl peptides, ionic strength and pH are allosteric modulators of agonist function [36, 47, 61, 108, 109]. Indeed, L-amino acids have been identified as "co-agonists", with both concomitant calcium and L-amino acid binding required for full receptor activation [149, 54]. The sensitivity of the CaS receptor to primary agonists is increased by elevated extracellular pH [18] or decreased extracellular ionic strength [109] while sensitivity is decreased by pathophysiological phosphate concentrations [20]. This receptor bears no sequence or structural relation to the plant calcium receptor, also called CaS.

Contents

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Calcium-sensing receptor

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Receptors

CaS receptor

<https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=54>

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