For Research Use Only

Recombinant Human PTH1R protein (rFc Tag)

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Catalog Number: Eg6501

Basic Information

Species:
Human

Purity:
>90 %, SDS-PAGE

Tag:
rFc Tag

Technical Specifications

Purity:
>90 %, SDS-PAGE

Endotoxin Level:
<0.1 EU/μg protein, LAL method

Source:
HEK293-derived Human PTH1R protein Asp27-Gly188 (Accession# Q03431) with a rabbit IgG Fc tag at the C-terminus.

GeneID:
5745

Accession:
Q03431

Predicted Molecular Mass:
44.2 kDa

SDS-PAGE:
47-65 kDa, reducing (R) conditions

Formulation:
Lyophilized from 0.22 μm filtered solution in PBS, pH 7.4. Normally 5% trehalose and 5% mannitol are added as protectants before lyophilization.

Biological Activity

Not tested

Storage and Shipping

Storage:
It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.

- Until expiry date, -20℃ to -80℃ as lyophilized proteins.
- 3 months, -20℃ to -80℃ under sterile conditions after reconstitution.

Shipping:
The product is shipped at ambient temperature. Upon receipt, store it immediately at the recommended temperature.

Reconstitution

Briefly centrifuge the tube before opening. Reconstitute at 0.1-0.5 mg/mL in sterile water.

Background

PTH1R (Parathyroid Hormone 1 Receptor) is a class B1 G protein-coupled receptor (GPCR) that serves as the principal mediator of calcium and phosphate homeostasis by responding to two endogenous peptide ligands—parathyroid hormone (PTH) and parathyroid hormone-related protein (PTHrP). Predominantly expressed in kidney, bone, and breast tissue, PTH1R activation triggers divergent intracellular signaling cascades, including the Gαs-adenylyl cyclase-cAMP-PKA pathway and the Gαq-PLC-PKC axis, thereby regulating renal calcium reabsorption, bone remodeling, and skeletal development. Germline mutations in PTH1R cause contrasting skeletal disorders: constitutively activating mutations lead to Jansen-type metaphyseal chondrodysplasia (hypercalcemia and short stature), while inactivating mutations result in Blomstrand lethal chondrodysplasia. In adult medicine, intermittent PTH1R activation by teriparatide or abaloparatide is exploited pharmacologically to promote bone formation in osteoporosis, underscoring the receptor's dual significance in both physiological mineral ion balance and clinical therapeutics.

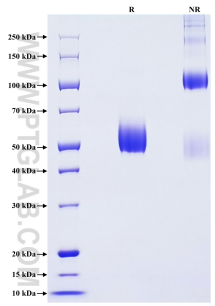
References

1.Alekos, Nathalie S et al. JCI insight vol. 8,6 (2023): e165604.
2.Culhane, Kelly J et al. ACS chemical biology vol. 13,8 (2018): 2347-2358.
3.Shimomura-Kuroki, Junko et al. Odontology vol. 105,2 (2017): 150-154.
4.Kim, Beomchang et al. Experimental and therapeutic medicine vol. 22,6 (2021): 1379.
5.Nampoothiri, Sheela et al. The Journal of clinical endocrinology and metabolism vol. 101,11 (2016): 4283-4289.

Synonyms

Parathyroid hormone/parathyroid hormone-related peptide receptor, PFE, PTHR, PTHR1

Selected Validation Data



Purity of Recombinant Human PTH1R was determined by SDS-PAGE. The protein was resolved in an SDS-PAGE in reducing (R) and non-reducing (NR) conditions and stained using Coomassie blue.