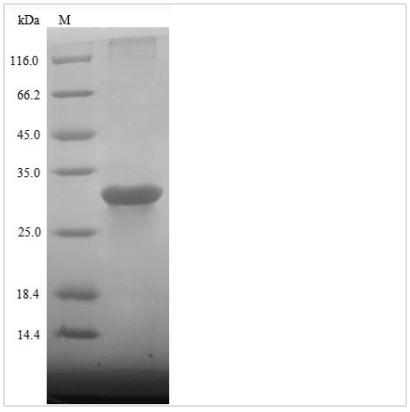
Recombinant Pig Growth hormone receptor (GHR), partial

Product Code	CSB-EP009411PI
Relevance	Receptor for pituitary gland growth hormone involved in regulating postnatal body growth. On ligand binding, couples to, and activates the JAK2/STAT5 pathway. The soluble form (GHBP) acts as a reservoir of growth hormone in plasma and may be a modulator/inhibitor of GH signaling.
Abbreviation	Recombinant Pig GHR protein, partial
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	P19756
Product Type	Recombinant Protein
Immunogen Species	Sus scrofa (Pig)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	FSGSEATPAVLVRASQSLQRVHPGLETNSSGKPKFTKCRSPELETFSCHWTD GVRHGLQSPGSIQLFYIRRSTQEWTQEWKECPDYVSAGENSCYFNSSYTSIWI PYCIKLTSNGGTVDQKCFSVEEIVQPDPPIGLNWTLLNISLTGIHADIQVRWEPP PNADVQKGWIVLEYELQYKEVNETQWKMMDPVLSTSVPVYSLRLDKEYEVRV RSRQRNSEKYGEFSEVLYVTLPQMSPFACEEDFR
Research Area	Cell Biology
Source	E.coli
Target Names	GHR
Protein Names	Somatotropin receptor
Expression Region	19-264aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	C-terminal 6xHis-tagged
Mol. Weight	30.3 kDa
Protein Length	Partial
Image	



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

Recombinant Pig Growth Hormone Receptor (GHR) is expressed in E. coli and contains amino acids 19 to 264 of the full-length protein, representing a partial sequence. This protein comes engineered with a C-terminal 6xHis-tag, which helps streamline purification and detection processes. Its purity appears to exceed 85% as confirmed by SDS-PAGE analysis, suggesting it's suitable for various research applications. The product is intended for research use only and not for diagnostic or therapeutic purposes.

The Growth Hormone Receptor (GHR) plays a critical role in regulating growth and metabolism. It participates in the growth hormone signaling pathway, mediating growth hormone effects by binding to it and triggering downstream signaling cascades. This receptor seems essential for various physiological processes, making it an important target for studies on growth disorders and metabolic research.

Potential Applications

Note: The applications listed below are based on what we know about this protein's biological functions, published research, and experience from experts in the field. However, we haven't fully tested all of these applications ourselves yet. We'd recommend running some preliminary tests first to make sure they work for your specific research goals.

1. Protein-Protein Interaction Studies

This recombinant pig GHR extracellular domain (19-264aa) can help investigate binding interactions with growth hormone and other potential ligands through surface plasmon resonance, bio-layer interferometry, or pull-down assays. The C-terminal 6xHis tag makes immobilization on nickel-coated surfaces or beads more straightforward for interaction studies. Researchers may determine binding kinetics, affinity constants, and specificity of various ligands to the pig GHR extracellular region. This application appears particularly valuable for comparative studies between pig and other mammalian growth hormone receptors.

2. Antibody Development and Characterization

The purified recombinant pig GHR protein works well as an immunogen for

generating species-specific antibodies against pig growth hormone receptor. Researchers can use the protein in ELISA-based screening of hybridoma clones or phage display libraries to identify high-affinity antibodies. The 6xHis tag also allows for easier purification and immobilization for antibody validation assays, epitope mapping studies, and determination of antibody specificity and cross-reactivity patterns.

3. Structural and Biochemical Analysis

This recombinant protein provides material for biophysical characterization studies including circular dichroism spectroscopy, dynamic light scattering, and analytical ultracentrifugation to assess protein folding, stability, and oligomerization state. The extracellular domain fragment can be analyzed for post-translational modifications, thermal stability, and conformational changes under various buffer conditions. These studies may contribute to understanding the structural properties of pig GHR compared to other species.

4. In Vitro Competitive Binding Assays

The recombinant pig GHR can be used in competitive binding assays to screen potential growth hormone analogs, antagonists, or small molecule compounds that might interfere with hormone-receptor interactions. Using the 6xHis tag for protein capture, researchers can develop plate-based assays to measure displacement of labeled growth hormone by test compounds. This application supports drug discovery research and mechanistic studies of growth hormone signaling pathways in porcine systems.

Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.
Shelf Life	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.