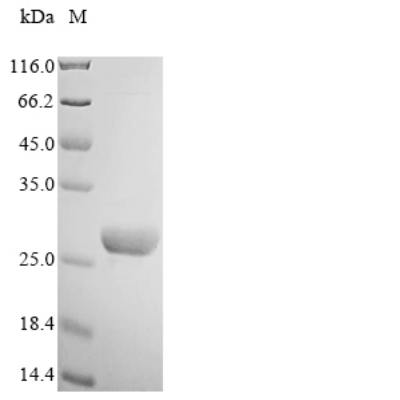
Recombinant Human Neuropeptide B (NPB)

Product Code	CSB-EP015971HU
Abbreviation	Recombinant Human NPB protein
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.	Q8NG41
Form	Liquid or Lyophilized powder
Storage Buffer	If the delivery form is liquid, the default storage buffer is Tris/PBS-based buffer, 5%-50% glycerol. If the delivery form is lyophilized powder, the buffer before lyophilization is Tris/PBS-based buffer, 6% Trehalose.
Product Type	Recombinant Proteins
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	WYKPAAGHSSYSVGRAAGLLSGLRRSPYA
Research Area	Others
Source	E.coli
Target Names	NPB
Protein Names	Recommended name: Neuropeptide B Alternative name(s): Preproprotein L7 Short name= hPPL7 Cleaved into the following 2 chains: 1. Neuropeptide B-23 Short name= 2. NPB23 Short name= 3. hL7 4. Neuropeptide B-29 Short
Expression Region	25-53aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal GST-tagged
Mol. Weight	29.5 kDa
Protein Length	Full Length of Mature Protein
Image	



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

Description

Recombinant Human Neuropeptide B (NPB) is produced in E. coli and comprises the full length of the mature protein spanning amino acids 25-53. This product carries an N-terminal GST tag, which aids in protein purification and detection. SDS-PAGE analysis shows purity greater than 90%, making it a high-quality protein that appears well-suited for research purposes. This product is intended for research use only and not for human therapeutic or diagnostic applications.

Neuropeptide B (NPB) is a neuropeptide that seems to play important roles in various signaling pathways within the central nervous system. It likely helps modulate neuroendocrine functions and has been linked to processes such as feeding behavior and energy homeostasis. NPB has become a target of interest in neurological research due to its potential impact on behavior and physiological regulation.

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. Neuropeptide Receptor Binding Studies

This recombinant NPB works well in competitive binding assays to characterize how neuropeptide B interacts with its cognate receptors, particularly NPBWR1 and NPBWR2. The GST tag makes protein purification straightforward and allows for immobilization in surface plasmon resonance or similar binding kinetic studies. Researchers can determine binding affinities, specificity, and competition profiles with related neuropeptides. This may help reveal new insights into NPB receptor pharmacology.

2. Antibody Development and Validation

The purified recombinant NPB serves as an ideal immunogen and standard for developing specific antibodies against human neuropeptide B. Scientists can take advantage of the GST tag for affinity purification of generated antibodies

through GST-based chromatography systems. This protein also works as a positive control in ELISA, Western blot, and immunohistochemistry applications to validate antibody specificity and cross-reactivity.

3. Biochemical Characterization and Structural Studies

High purity recombinant NPB enables detailed biochemical analysis including mass spectrometry, circular dichroism spectroscopy, and NMR studies to characterize the peptide's structure and stability. The GST tag provides a convenient handle for protein immobilization in various analytical techniques. Researchers can investigate post-translational modifications, protein folding, and conformational changes under different buffer conditions, though results may vary depending on experimental setup.

4. Cell-Based Functional Assays

This recombinant NPB can be applied to cell lines expressing neuropeptide B receptors to study downstream signaling pathways and cellular responses. The protein works in calcium mobilization assays, cAMP measurement studies, and other second messenger pathway investigations. Its defined concentration and purity allow for dose-response studies to establish EC50 values and characterize receptor activation profiles, though optimal conditions may need to be determined empirically.

5. Protein-Protein Interaction Studies

The GST-tagged NPB can be used in pull-down assays to identify novel binding partners or cofactors that interact with neuropeptide B. The GST tag makes immobilization on glutathione-sepharose beads straightforward for affinity purification of interacting proteins from cell lysates or tissue extracts. This approach might reveal previously unknown molecular interactions that could modulate NPB function or metabolism.

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.