

Recombinant Rat PHB2 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52477

Size: 10ug, 100ug

Protein Name: Prohibitin-2 (B-cell receptor-associated protein BAP37) (BAP-37)

Synonym: Phb2, Bcap37

UniProt ID: Q5XIH7

UniProt Link: www.uniprot.org/uniprotkb/Q5XIH7/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 299 AA

Molecular Weight: 33 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MAQNLKDLAGRLPSGPRGMGTALKLLL GAGAVAYGVRESVFTVEGGHRAIFFNRIGGVQQDTILAE
GLHFRIPWFQYPIIYDIRARPRKISSPTGSKDLQMVNISLRVLSRPNAQELPSMYQRLGLDYEERVLPS
IVNEVLKSVVAKFNASQLITQRAQVSLIRRELTERAKDFSLILDDVAITELSF SREYTA AVEAKQVAQQ
EAQRAQFLVEKAKQEQRQKIVQAEGEAEAAKMLGEALSKNPGYIKLRKIRAAQNISKTIATSQNRIYLT
ADNLVLNLQDESFTRGSDSLIKGKK

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Prohibitin-2 (B-cell receptor-associated protein BAP37) (BAP-37) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Protein with pleiotropic attributes mediated in a cell-compartment- and tissue-specific manner, which include the plasma membrane-associated cell signaling functions, mitochondrial chaperone, and transcriptional co-regulator of transcription factors and sex steroid hormones in the nucleus.; In the mitochondria, together with PHB1, forms large ring complexes (prohibitin complexes) in the inner mitochondrial membrane (IMM) and functions as a chaperone protein that stabilizes mitochondrial respiratory enzymes and maintains mitochondrial integrity in the IMM, which is required for mitochondrial morphogenesis, neuronal survival, and normal lifespan. The prohibitin complex, with DNAJC19, regulates cardiolipin remodeling and the protein turnover of OMA1 in a cardiolipin-binding manner. Also regulates cytochrome-c oxidase assembly (COX) and mitochondrial respiration. Binding to sphingoid 1-phosphate (SPP) modulates its regulator activity. Has a key role of mitophagy receptor involved in targeting mitochondria for autophagic degradation. Involved in mitochondrial-mediated antiviral innate immunity, activates RIG-I-mediated signal transduction and production of IFNB1 and pro-inflammatory cytokine IL6.; In the nucleus, serves as transcriptional co-regulator. Acts as a mediator of transcriptional repression by nuclear hormone receptors via recruitment of histone deacetylases. Functions as an estrogen receptor (ER)-selective coregulator that potentiates the inhibitory activities of antiestrogens and represses the activity of estrogens. Competes with NCOA1 for modulation of ER transcriptional activity.; In the plasma membrane, is involved in IGF1P6-induced cell migration (By similarity). Cooperates with CD86 to mediate CD86-signaling in B lymphocytes that regulates the level of IgG1 produced through the activation of distal signaling intermediates. Upon CD40 engagement, required to activate NF-kappa-B signaling pathway via phospholipase C and protein kinase C activation (By similarity).

Subcellular Localization: Mitochondrion inner membrane . Cytoplasm . Nucleus . Cell membrane .

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.