

Recombinant Human NOX5 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50734

Size: 10ug, 100ug

Protein Name: NADPH oxidase 5 (EC 1.-.-.) (EC 1.6.3.-)

Synonym: NOX5

UniProt ID: Q96PH1

UniProt Link: www.uniprot.org/uniprotkb/Q96PH1/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 765 AA

Molecular Weight: 86 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MNTSGDPAQTGPEGCRGTMSAEEDARWLRWVTQQFKTIAGEDGEISLQEFKAALHVKESFFAERFF
ALFDSDRSGTITLQELQEALTLLIHGSPMDKLKFLFQVYDIDVCARQGASAGTEWGAGAGPHWASSP
LGTGSGSIDPDELRTVLQSCRESAISLPDEKLDQLTLALFESADADGNGAITFEELRDELQRFPGVM
ENLTISAHAWLTAPAPRPRRRPRQLTRAYWHNHRSQLFCLATYAGLHVLLFGLAASAHRLDGLASV
MVAKGCGQCLNFDCSFI AVLMLRRCLTWLRATWLAQVLPDQNIQFHQLMGYVVVGLSLVHTVAHT
VNFVLQAQAEASPFQFWELLTTTPRGIGWVHGSASPTGVALLLLLLLMFICSSSCIRRSRGHFEVFWYWT
HLSYLLVWLLIFHGP NFVKWLLVPGILFFLEKAIGLAVSRMAAVCIMEVNLLPSKVTHLLIKRPPFFHY
RPGDYLYLNIPTIARYEWHPTISSAPEQKDTIWLHRSQQGWNTNRLYESFKASDPLGRGSKRLSRSV
TMRKSQRSSKGSEILLEKHKFCNIKCYIDGPYGTPTRRIFASEHAVLIGAGIGITPFASILQSIMYRHQK
RKHTCPSCQHSWIEGVQDNMKLHKVDIFIWINRDQRSFEWFVSLT KLEMDQAEAAQYGRFLELHMY
MTSALGKNDMKAIGLQMALDLLANKEKDSITGLQTRTQPGRPDWSKV FQKVAAEKKGKVQVFFCG
SPALAKVLKGHC EKFGRFFQENF

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 NADPH oxidase 5 (EC 1.-.-.-) (EC 1.6.3.-) 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: Calcium-dependent NADPH oxidase that catalyzes the generation of superoxide from molecular oxygen utilizing NADPH as an electron donor (PubMed:12686516). Also synthesizes NAADP from its reduced NAADPH form which promotes Ca(2+) signaling during T cell activation (PubMed:34784249). May play a role in cell growth and apoptosis (PubMed:12686516).; [Isoform v2]: Calcium-dependent NADPH oxidase that catalyzes the generation of superoxide from molecular oxygen utilizing NADPH as an electron donor (PubMed:11483596, PubMed:14982937, PubMed:17275676, PubMed:17587483, PubMed:21642394, PubMed:22387196, PubMed:22427510, PubMed:24505490, PubMed:36653838). Involved in endothelial generation of reactive oxygen species (ROS), proliferation and angiogenesis and contributes to endothelial response to thrombin (PubMed:17275676). Regulates redox-dependent processes in lymphocytes and spermatozoa (PubMed:11483596).; [Isoform v1]: Calcium-dependent NADPH oxidase that catalyzes the generation of superoxide from molecular oxygen utilizing NADPH as an electron donor.; [Isoform v5]: This isoform lacks calcium-binding domains and was showed to present a NADPH oxidase activity in a calcium-independent manner (PubMed:17275676, PubMed:36653838). May be involved in endothelial generation of reactive oxygen species (ROS), proliferation and angiogenesis and contribute to endothelial response to thrombin (PubMed:17275676). However another study showed an absence of oxidase activity (PubMed:22427510). Subject to rapid degradation (PubMed:36653838).; [Isoform v3]: Lacks calcium-dependent NADPH oxidase activity.; [Isoform v4]: Lacks calcium-dependent NADPH oxidase activity.

Subcellular Localization: [Isoform v2]: Endoplasmic reticulum . Cell membrane ; Multi-pass membrane protein . Note=Calcium-sensitive association and dissociation between the N- and C-terminal domains appears to facilitate its localization to the cell membrane.; [Isoform v5]: Endoplasmic reticulum .

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.