

Recombinant Rat DUOX2 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52573

Size: 10ug, 100ug

Protein Name: Dual oxidase 2 (EC 1.-.-) (EC 1.11.1.-) (EC 1.6.3.1) (Large NOX 2) (Long NOX 2) (NADH/NADPH thyroid oxidase THOX2) (Thyroid oxidase 2)

Synonym: Duox2, Lnox2, Thox2

UniProt ID: Q9ES45

UniProt Link: www.uniprot.org/uniprotkb/Q9ES45/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 1517 AA

Molecular Weight: 172 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MLPTSLKTLVLLGALLTGPLGPAGGQDAPSLPREVQRYDGFNNLKYHQRGAAAGSQLRRLVPANY
ADGVYQALQEPLLPNARLLSDAVSKGKAGLPSAHNRTVLGLFFGYHVLSDLVSVETPGCPAEFLNIYI
PRGDPVFDPKRGNVLPFQSRWRDSTGQSPSNPRDLTNQVTGWLDGSAIYGSSHSWSDTLRS
FSGGQLASGPDPAFPRNSQNSLLMWMAPDPATGQGGPQGLYAFGAQQRGNREPFLQALGLLWFRY
HNLCAKRLAQEHPHWGDEELFQHARKRVIATYQNIALLYQWLPSFLQKTPPEYSGYRPFMDPSISPEF
VAASEQFLSTMVPPGVYMRNSSCHFREFPKEGSSSSPALRVCNNYWIRENPSLKTAQDQDQLLLG
MASQISELEDRIEDLRDYWPGPDYSRTDYVASSIQSGRDMGLPSYSQALQALGLEPPKNWSALN
PKVDPQVLEATAALYNQDLRLELFLGGLLESHGDPGLFSNIILDQFVRLRDGDYWFENTRNLG
SKEEIAEIRNTTLRDVLVAVSNVDPSALQPNVFFWQEGAPCPQPQQLTTEGLPQCVPVTIDYFEGS
GAGYGVTLAVCCFPVSLIIAWVVARFRNRERKMLLKKGKESLKKQTASDGVPAMEWPGPKESY
PVTVQLLPDRSLKVLDRKLTVLRTIQLQPTQQVNILSSSHGRRTLLLKIPKEYDLVLMFNSEEDRDAF
VQLLDLCVCSTPGLRIAEMDEKELLRKAVTKQQRAGILEIFFRQLFAQVLDINQADAGTLPLDSSQQ
VREALTCELSRAEFADSLGLKPQDMFVESMFSLADKDGNGYISFREFLDILVFMKGSPQDKSRLMF
TMYDLDDGNGFLSKEEFFTMMRSFIEISNNCLSKDQLAEVVESMFRESGFQDKEELTWEDFHFMRLD
HSDLRFTQLCVKGGAGGTGDIFKQSNACRVSFLTRTPGNRVMAPSPRLYTEALQEKMQRGFLAQ
KLKQFKRFVENYRRHIVCVTIFSAICAGLFADRAYYYGFASPPTDIEETTYVGIIILSRGTAASISFMFSYI
LLTMCRLNITFLRETFLNRYIPFDAAVDFHRWIAMAAVVLAVVHSLGHAVNVYIFSVSPLSLMTCVFPS
VFVNDGSKLPPKYYWWFFETVPGMTGVLLLLVLAIMYVFASHHFRRHSFRGFWLTHHLYVVLIALIII



HGSYALIQLP SFHIYFLVPAIIYVGDKLVSLSRKKVEISVVKVELLP SGVTYLQFQRPKTFEYKSGQWV
RIACLSLGTNEYHPFTLT SAPHEDTSLHIRAVGPWTTRLREIYSPVGGTSARYPKLYLDGPFGE GH
QEW HKFEVSVLVGGGIGVTPFASILKDLVFKSSMGTQMLCKKIYFIWVTRTQRQFEWLADIIREVEEN
GSRDLVSVHIYITQLAEKFDLRTTMLYICERHFQKVLNRS LFTGLRSVTHFGRPPFELFLDSLQEVHP
QVHKIGVFSCGPPGMTKNVEKACQLINRQDRAHFVHHYENF

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 Dual oxidase 2 (EC 1.-.-) (EC 1.11.1.-) (EC 1.6.3.1) (Large NOX 2) (Long NOX 2) (NADH/NADPH thyroid oxidase THOX2) (Thyroid oxidase 2) 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: Generates hydrogen peroxide which is required for the activity of thyroid peroxidase/TPO and lactoperoxidase/LPO. Plays a role in thyroid hormone synthesis. Also required for lactoperoxidase-mediated antimicrobial defense at the surface of mucosa. Synthesizes NAADP from its reduced NAADPH form which promotes Ca(2+) signaling during T cell activation. May have its own peroxidase activity through its N-terminal peroxidase-like domain.

Subcellular Localization: Apical cell membrane ; Multi-pass membrane protein . Cell junction .
Note=Localizes to the apical membrane of epithelial cells. Localizes on internal membrane structures under resting conditions, translocates to the plasma membrane and cell-cell junctions upon challenge with enteric pathogens.

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.