

Recombinant Human DUOX2 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50267

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 p138-tox) (NADPH oxidase/peroxidase DUOX2) (NADPH thyroid oxidase 2) (Thyroid oxidase 2) (p138 thyroid oxidase)

Synonym: DUOX2, LNOX2, THOX2

UniProt ID: Q9NRD8

UniProt Link: www.uniprot.org/uniprotkb/Q9NRD8/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 1548 AA

Molecular Weight: 175 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MLRARPEALMLLGALLTGSLGPSGNQDALSLPWEVQRYDGFNNLRRHHERGAVGCRLQRRVPAN
YADGVYQALEEPQLPNPRRLSNAATRGIAGLPSLHNRTVLGVFFGYHVLSDVSVETPGCPAEFLNI
RIPPGDPVFDPDQRGDVLPFQRSRWDPETGRSPSNPRDLANQVTGWLDGSAIYGSSHSWSDALR
SFSGGQLASGPDPAFPRDSQNPLLMWAAPDPATGQNGPRGLYAFGAERGNREPFLQALGLLWFR
YHNLWAQRLARQHPDWEDEELFQHARKRVIATYQNIAYVEWLPSFLQKTLPEYTGYPFLDPSISPE
FVVASEQFFSTMVPPGVYMRNASCHFRKVLNKGQSSQALRVCNNYWIRENPNLNSTQEVNELLG
MASQISELEDNIVVEDLRDYWPGPGKFSRTDYVASSIQRGRDMGLPSYSQALLAFGLDIPRNWSDLN
PNVDPQVLEATAALYNQDLSQLELLLGGLLESHGDPGLFSAIVLDQFVRLRDGDYWFENTRNLG
SKKEIEDIRNTTLRDVLVAVINIDPSALQPNVFWHKGAPCPQPKQLTTDGLPQCAPLTVLDDFFEGSS
PGFAITIIALCCLPLVSLLLSGVVAYFRGREHKKLQKKLKEVSKKEAAKDGVPAWEPGPKERSPIII
QLLSDRCLQVLNRHLTVLRVVLQPLQVNLILSNNRGCRTLLLKIPKEYDLVLLFSSEEERGAFFVQQ
LWDFCVRWALGLHVAEMSEKELFRKAVTKQQRERILEIFFRHLFAQVLDINQADAGTLPLDSSQKVR
EALTCELSRAEFAESLGLKPQDMFVESMFSLADKDGNGYLSFREFLDILVVFMMKGSPEDKSRLMFTM
YDLDENGFLSKDEFFTMMRSFIEISNNCLSKAQLAEVVESMFRESGFQDKEELTWEDFHFMRLRDHD
SELRFTQLCVKGGGGGGNGIRDIFKQNISCRVSFITRTPGERSHPQGLGPPAPEAPELGGPGLKKRF
GKKAAPTPLYTEALQEKMQRGFLAQKLQYKRFVENYRRHIVCVAIFSAICVGVFADRAYYYGFA
SPPSDIAQTTLVGIIISRGTAAVSVMFSYILLTMCRNLITFLRETFLNRYVPFDDAAVDFHRWIAMAAYV



LAILHSAGHAVNVYIFSVSPLSLLACIFPNVFNVDGSKLPQKFYWWFFQTVPGMTGVLLLLVLAIMYVF
ASHHFRRRSFRGFWLTHHLYALLYALLIIHGSYALIQLPTFHIYFLVPAIIYGGDKLVLSRKKVEISVVKA
ELLPSGVTYLQFQRPQGFEYKSGQWVRIACLALGTTEYHPFTLTSAFHEDTSLHIRAVGPWTTTLR
EIYSSPKGNGCAGYPKLYLDGPFGEHGHQEWKFEVSVLVGGGIGVTPFASILKDLVFKSSLGSQMLC
KKIYFIWVTRTQRQFEWLADIIQEVEENDHQLVSVHIYVTQLAEKFDLRTTMLYICERHFQKVLNRS
FTGLRSITHFGRPPFEPFFNSLQEVHPQVRKIGVFSCGPPGMTKNVEKACQLVNRQDRAHFMHHYE
NF

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 p138-tox) (NADPH oxidase/peroxidase DUOX2) (NADPH thyroid oxidase 2) (Thyroid oxidase 2) (p138 thyroid oxidase) 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 (PubMed:15972824). Plays a role in thyroid hormone synthesis. Also required for lactoperoxidase-mediated antimicrobial defense at the surface of mucosa (PubMed:12824283). Synthesizes NAADP from its reduced NAADPH form which promotes Ca(2+) signaling during T cell activation (PubMed:34784249). 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, such as Escherichia coli.

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.