

Recombinant Human AL1A2 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50025

Size: 10ug, 100ug

Protein Name: Retinal dehydrogenase 2 (RALDH 2) (RaLDH2) (EC 1.2.1.36) (Aldehyde dehydrogenase family 1 member A2) (ALDH1A2) (Retinaldehyde-specific dehydrogenase type 2) (RALDH(II))

Synonym: ALDH1A2, RALDH2

UniProt ID: O94788

UniProt Link: www.uniprot.org/uniprotkb/O94788/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 518 AA

Molecular Weight: 57 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MTSSKIEMPGEVKADPAALMASLHLLPSPTPNLEIKYTKIFINNEWQNSESGRVFPVYNPATGEQVCE
VQEADKADIDKAVQAARLAFSLGSVWRRMDASERGRLLDKLADLVERDRAVLATMESLNGGKPFLLQ
AFYVDLQGVIKTFRYYAGWADKIHGMTIPVDGDYFTFTRHEPIGVCGQIIPWNFPLLMFAWKIAPALC
CGNTVVIKPAEQTPLSALYMGALIKEAGFPPGVINILPGYGPTAGAAIASHIGIDKIAFTGSTEVGKLIQE
AAGRSNLKRVTLLELGGKSPNIIFADADLDYAVEQAHQGVFFNQGCCTAGSRIFVEESIYEEFVRRS
VERAKRRVVGSPFDPTTEQGPQIDKKQYNKILELIQSGVAEGAKLECGGKGLGRKGFFIEPTVFSNV
TDDMRIAKEEIFGPVQEILRFKTMDEVIERANNSDFGLVAAVFTNDINKALTSSAMQAGTVWINCYN
ALNAQSPFGGFKMSGNGREMGEFGLREYSEVKTVTVKIPQKNS

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 Retinal dehydrogenase 2 (RALDH 2) (RaIDH2) (EC 1.2.1.36) (Aldehyde dehydrogenase family 1 member A2) (ALDH1A2) (Retinaldehyde-specific dehydrogenase type 2) (RALDH(II)) 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: Catalyzes the NAD-dependent oxidation of aldehyde substrates, such as all-trans-retinal and all-trans-13,14-dihydroretinal, to their corresponding carboxylic acids, all-trans-retinoate and all-trans-13,14-dihydroretinoate, respectively (PubMed:29240402, PubMed:33565183). Retinoate signaling is critical for the transcriptional control of many genes, for instance it is crucial for initiation of meiosis in both male and female (Probable) (PubMed:33565183). Recognizes retinal as substrate, both in its free form and when bound to cellular retinol-binding protein (By similarity). Can metabolize octanal and decanal, but has only very low activity with benzaldehyde, acetaldehyde and propanal (By similarity). Displays complete lack of activity with citral (By similarity).

Subcellular Localization: Cytoplasm.

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.