

Recombinant Rat PO4F2 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52194

Size: 10ug, 100ug

Protein Name: POU domain, class 4, transcription factor 2 (Brain-specific homeobox/POU domain protein 3B) (Brain-3B) (Brn-3B) (Brn-3.2)

Synonym: Pou4f2, Brn3b

UniProt ID: G3V7L5

UniProt Link: www.uniprot.org/uniprotkb/G3V7L5/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 412 AA

Molecular Weight: 43 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MMMSLSNSKQAFSMPHAGSLHVEPKYSALHSASPGSSAPAAPSASSPSSSSNAGSGGGGGGGG
GGGGGGRRSSSSSSSGSGGGGGGGSEAMRRACLPPTPSNIFGGLDESLARAEALAAVDIVSQSKS
HHHHPPHHSPFKPDATYHTMNTIPCTSAASSSSVPISHPSALAGTHHHHHHHHHHHHHQPHQALEGE
LLEHLSPGLALGAMAGPDGTVVSTPAHAPHMATMNPMPHQAALSMHAHGLPSHMGCMUSDVDADP
RDLEAFAERFKQRRIKLGVTQADVGSALANLKIPGVGSLSQSTICRFESLTLSHNNMIALKPILQAWLE
EAEKSHREKLTKEPLFNAGAEKKRKRTSIAAPEKRSLEAYFAIQPRPSSEKIAAIAEKLDLKNVVRVWF
CNQRQKQKRMKYSAGI

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 POU domain, class 4, transcription factor 2 (Brain-specific homeobox/POU domain protein 3B) (Brain-3B) (Brn-3B) (Brn-3.2) 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: Tissue-specific DNA-binding transcription factor involved in the development and differentiation of target cells. Functions either as activator or repressor modulating the rate of target gene transcription through RNA polymerase II enzyme in a promoter-dependent manner. Binds to the consensus octamer motif 5'-AT[A/T]A[T/A]T[A/T]A-3' of promoter of target genes. Plays a fundamental role in the gene regulatory network essential for retinal ganglion cell (RGC) differentiation. Binds to an octamer site to form a ternary complex with ISL1; cooperates positively with ISL1 and ISL2 to potentiate transcriptional activation of RGC target genes being involved in RGC fate commitment in the developing retina and RGC axon formation and pathfinding. Inhibits DLX1 and DLX2 transcriptional activities preventing DLX1- and DLX2-mediated ability to promote amacrine cell fate specification. In cooperation with TP53 potentiates transcriptional activation of BAX promoter activity increasing neuronal cell apoptosis. Negatively regulates BAX promoter activity in the absence of TP53. Acts as a transcriptional coactivator via its interaction with the transcription factor ESR1 by enhancing its effect on estrogen response element (ERE)-containing promoter. Antagonizes the transcriptional stimulatory activity of POU4F1 by preventing its binding to an octamer motif. Involved in TNFSF11-mediated terminal osteoclast differentiation.

Subcellular Localization: Nucleus . Nucleus speckle . 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.