

Recombinant Rat NR4A3 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52387

Size: 10ug, 100ug

Protein Name: Nuclear receptor subfamily 4 group A member 3 (Neuron-derived orphan receptor 1/2) (Nuclear hormone receptor NOR-1/NOR-2)

Synonym: Nr4a3, Nor1

UniProt ID: P51179

UniProt Link: www.uniprot.org/uniprotkb/P51179/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 628 AA

Molecular Weight: 69 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MPCVQAQYSPSPPGSTYATQTYGSEYTTIMNPDYAKLTMDLGSTGIMATATTSLPSTFMEGYPS
 SCELKPSCLYQMPPSGPRPLIKMEEGREHGYYHHHHHHHHHHHHHHHHHHQQQQPSIPPPSGPEDEVLP
 TSMYFKQSPSTPTTPGFPPQAGALWDELPSAPGCIAPGPLLDPQMKAVPPMAAAARFPIFFKPS
 PHPPAPSPAGGHHLGYDPTAAAALSLPLGAAAAAGSQAALLEGHPYGLPLAKRTATLTFPPLGLTAS
 PTASSLLGESPSLPSPPNRSSSSGEGTCAVCGDNAACQHYGVRTCEGCKGFFKRTVQKNAKYVCL
 ANKNCPVDKRRRNRCQYCRFQKCLSVGMVKEVVRTDSLKGRRGRPLPSKPKSPLQQEPSQSPSPS
 PPICMMNALVRALTDATPRDLDSRYCPTDQATAGTDAEHVQQFYNLLTASIDVSRSWAEKIPGFTD
 LPKEDQTLIESAFLELFLVRLSIRSNTAEDKFVFCNGLVLHRLQCLRGFGEWLDSIKDFSLNLQSLNL
 DIQALACLSALSMITERHGLKEPKRVEELCNKITSSLKDHQRKGQALEPSEPKVLRALVELRKICTQGL
 QRIFYLKLEDLVSPSPVIDKLFDLTPF

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 Nuclear receptor subfamily 4 group A member 3 (Neuron-derived orphan receptor 1/2) (Nuclear hormone receptor NOR-1/NOR-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: Transcriptional activator that binds to regulatory elements in promoter regions in a cell- and response element (target)-specific manner (PubMed:7811288). Induces gene expression by binding as monomers to the NR4A1 response element (NBRE) 5'-AAAAGGTCA-3' site and as homodimers to the Nur response element (NurRE) site in the promoter of their regulated target genes (PubMed:10523643). Plays a role in the regulation of proliferation, survival and differentiation of many different cell types and also in metabolism and inflammation. Mediates proliferation of vascular smooth muscle, myeloid progenitor cell and type B pancreatic cells; promotes mitogen-induced vascular smooth muscle cell proliferation through transactivation of SKP2 promoter by binding a NBRE site (By similarity). Upon PDGF stimulation, stimulates vascular smooth muscle cell proliferation by regulating CCND1 and CCND2 expression (PubMed:16945922). In islets, induces type B pancreatic cell proliferation through up-regulation of genes that activate cell cycle, as well as genes that cause degradation of the CDKN1A (PubMed:24706823). Negatively regulates myeloid progenitor cell proliferation by repressing RUNX1 in a NBRE site-independent manner. During inner ear, plays a role as a key mediator of the proliferative growth phase of semicircular canal development (By similarity). Also mediates survival of neuron and smooth muscle cells; mediates CREB-induced neuronal survival, and during hippocampus development, plays a critical role in pyramidal cell survival and axonal guidance. Is required for S phase entry of the cell cycle and survival of smooth muscle cells by inducing CCND1, resulting in RB1 phosphorylation. Binds to NBRE motif in CCND1 promoter, resulting in the activation of the promoter and CCND1 transcription (By similarity). Also plays a role in inflammation; Upon TNF stimulation, mediates monocyte adhesion by inducing the expression of VCAM1 and ICAM1 by binding to the NBRE consensus site (By similarity). In mast cells activated by Fc-epsilon receptor cross-linking, promotes the synthesis and release of cytokines but impairs events leading to degranulation. Also plays a role in metabolism; by modulating feeding behavior; and by playing a role in energy balance by inhibiting the glucocorticoid-induced orexigenic neuropeptides AGRP expression, at least in part by forming a complex with activated NR3C1 on the AGRP-glucocorticoid response element (GRE), and thus weakening the DNA binding activity of NR3C1. Upon catecholamines stimulation, regulates gene expression that controls oxidative metabolism in skeletal muscle (By similarity). Plays a role in glucose transport by regulating translocation of the SLC2A4 glucose transporter to the cell surface (By similarity). Finally, during gastrulation plays a crucial role in the formation of anterior mesoderm by controlling cell migration (By similarity). Also participates in cardiac hypertrophy by activating PARP1 (PubMed:25625556).

Subcellular Localization: Nucleus .

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.



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- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.