

Recombinant Rat GCR Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52246

Size: 10ug, 100ug

Protein Name: Glucocorticoid receptor (GR) (Nuclear receptor subfamily 3 group C member 1)

Synonym: Nr3c1, Grl

UniProt ID: P06536

UniProt Link: www.uniprot.org/uniprotkb/P06536/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 795 AA

Molecular Weight: 88 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MDSKESLAPPGRDEVPGSLLGQGRGSVMDFYKSLRGGATVKVSASSPSVAAASQADSKQQRILLD
FSKGSTSNVQQRQQQQQQQQQQQQQQQQQQQPDLSKAVSLSMGLYMGETETKVMGNDLGYPQ
QGQLGLSSGETDFRLLEESIANLNRSTSVPENPKSSTSATGCATPTEKEFPKTHSDASSEQQNRKS
QTGTNGGSVKLYPTDQSTFDLLKDLEFSAGSPSKDTNESPWRSDLLIDENLLSPLAGEDDPFLLEG
TNEDCKPLILPDTKPKIKDTGDTILSSPSSVALPQVKTEKDDFIELCTPGVIKQEKLGVPVYCQASFS
GTNIIGNKMSAISVHGVSTSGGQMYHYDMNTASLSQQQDQKPVFNVIPPIPVGSENNWRCQGS
GEDSLTSLGALNFPGRSVFSNGYSSPGMRPDVSSPPSSSSAATGPPPKLCLVCSDEASGCHYGV
LTCGSKVFFKRAVEGQHNYLCAGRNDICIIRKKNCPACRYRKCLQAGMNLEARKTKKKIKGIQ
QATAGVSQDTSENPNKTIVPAALPQLTPTLVSLLEVIEPEVLYAGYDSSVPDSAWRIMTT
LNMLGGRQVIAAVKWAKAILGLRNLHLDDQMTLLQYSWMFLMAFALGWSYRQSSGNLLCFAP
DLIINEQRMSLPCMYDQCKHMLFVSSSELQRLQVSYEEYLCMKTLTLLSSVPKEGLKSQELF
DEIRMTYIKELGKAIVKREGNSSQNWQRFYQLTKLLDSMHEVVENLLTYCFQTFLDKTMSIE
FPEMLAEIITNQIPKYSNGNIKKLLFHQK

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 Glucocorticoid receptor (GR) (Nuclear receptor subfamily 3 group C member 1) 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: Receptor for glucocorticoids (GC). Has a dual mode of action: as a transcription factor that binds to glucocorticoid response elements (GRE), both for nuclear and mitochondrial DNA, and as a modulator of other transcription factors. Affects inflammatory responses, cellular proliferation and differentiation in target tissues. Involved in chromatin remodeling (PubMed:12917342). Plays a role in rapid mRNA degradation by binding to the 5' UTR of target mRNAs and interacting with PNRC2 in a ligand-dependent manner which recruits the RNA helicase UPF1 and the mRNA-decapping enzyme DCP1A, leading to RNA decay (By similarity). Could act as a coactivator for STAT5-dependent transcription upon growth hormone (GH) stimulation and could reveal an essential role of hepatic GR in the control of body growth (By similarity). In response to induction by transcription factor EGR1/NGFI-A in the hippocampus, may play a role in the behavioral and hypothalamic-pituitary-adrenal responses to stress in offspring (PubMed:15220929).; [Isoform A]: Has transcriptional activation and repression activity. Mediates glucocorticoid-induced apoptosis. Promotes accurate chromosome segregation during mitosis. May act as a tumor suppressor. May play a negative role in adipogenesis through the regulation of lipolytic and antilipogenic gene expression.

Subcellular Localization: [Isoform A]: Cytoplasm . Nucleus . Mitochondrion . Cytoplasm, cytoskeleton, spindle . Cytoplasm, cytoskeleton, microtubule organizing center, centrosome . Chromosome . Nucleus, nucleoplasm . Note=After ligand activation, translocates from the cytoplasm to the nucleus (By similarity). The hormone-occupied receptor undergoes rapid exchange between chromatin and the nucleoplasmic compartment. In the presence of NR1D1 shows a time-dependent subcellular localization, localizing to the cytoplasm at ZT8 and to the nucleus at ZT20. Lacks this diurnal pattern of localization in the absence of NR1D1, localizing to both nucleus and the cytoplasm at ZT8 and ZT20. Upon dexamethasone binding associates with the glucocorticoid response elements of target genes (By similarity).

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.