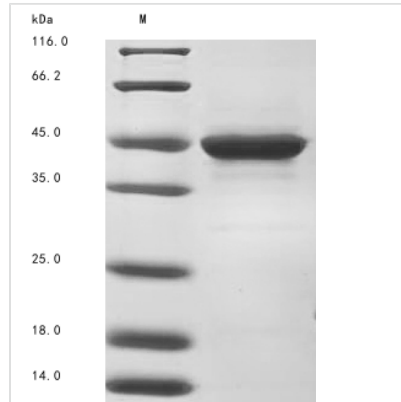




Recombinant Human Developmentally-regulated GTP-binding protein 2 (DRG2)

Product Code	CSB-EP2817HU
Abbreviation	Recombinant Human DRG2 protein
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	A8MZF9
Storage Buffer	Tris-based buffer,50% glycerol
Product Type	Recombinant Proteins
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	MGILEKISEIEKEIARTQKNKATEYHLGLLKAKLAKYRAQLLEPSKSASSKGEGF DVMKSGDARVALIGFPSVGKSTFLSLMTSTASEAASYEFTTLTCIPGVIEYKGA NIQLLDLPGIIEGAAQGKGRGRQVIARTADVIMMLDATKGEVQSRSLLEKELE SVGIRLNKHKPNIFYFKPKKGGGIFNSTVTLTQCSEKLVQLILHEYKIFNAEVLFR EDCSPDEFIDVIVGNRVYMPCLYVYNKIDQISMEEVDRLARKPNSVVISCGMKL NLDYLLEMLWEYLALTCIYTKKRGQRPDFTDAILRKGASVEHVCHRIHRSLAS QFKAPAPSTVRSGWA
Research Area	Cell Biology
Source	E.coli
Target Names	DRG2
Expression Region	1-343aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-tagged
Mol. Weight	44.1 kDa
Protein Length	Full Length
Image	



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

Recombinant Human Developmentally-regulated GTP-binding protein 2 (DRG2) is produced in *E. coli* and contains the complete protein sequence spanning amino acids 1 to 343. An N-terminal 6xHis-tag is attached to streamline purification and detection processes. SDS-PAGE analysis confirms the product reaches over 85% purity, which appears to provide reliable experimental results for research applications.

DRG2 belongs to the GTP-binding protein family and likely plays a role in cellular processes such as signal transduction and protein synthesis. The protein seems to be involved in important pathways that regulate cell growth and differentiation. This makes it an intriguing target for studies related to cellular development and function. Researchers often turn to DRG2 to explore how it contributes to these fundamental biological mechanisms.

Potential Applications

Note: The applications listed below are based on what we know about this protein's biological functions, published research, and experience from experts in the field. However, we haven't fully tested all of these applications ourselves yet. We'd recommend running some preliminary tests first to make sure they work for your specific research goals.

1. Protein-Protein Interaction Studies Using Pull-Down Assays

The N-terminal 6xHis-tagged recombinant human DRG2 can be immobilized on nickel-affinity resins to identify and characterize potential binding partners. Cell lysates or purified protein libraries may be incubated with the immobilized DRG2 to capture interacting proteins. These can then be analyzed by mass spectrometry or Western blotting. This approach should help clarify the molecular networks and signaling pathways involving DRG2 during development. The full-length protein (1-343aa) preserves all potential interaction domains for comprehensive binding studies.

2. Antibody Development and Validation

The purified recombinant DRG2 protein works well as an immunogen for generating specific monoclonal or polyclonal antibodies against human DRG2. High purity (>85%) and the full-length nature of the protein likely ensure proper



antigenic presentation and epitope accessibility. Generated antibodies can be validated using the same recombinant protein in ELISA, Western blot, and immunoprecipitation assays. This confirms specificity and helps determine optimal working concentrations.

3. GTPase Activity Biochemical Assays

Since DRG2 is a GTP-binding protein, recombinant DRG2 can be used in in vitro biochemical assays to study its GTPase activity and nucleotide binding properties. Researchers may perform GTP hydrolysis assays, nucleotide exchange experiments, and binding kinetics studies to characterize the enzymatic properties of DRG2. The purified protein also offers a way to screen for potential GTPase-activating proteins (GAPs) or guanine nucleotide exchange factors (GEFs) that might regulate DRG2 function.

4. Structural and Biophysical Characterization Studies

The recombinant full-length DRG2 protein can be applied to structural biology applications including X-ray crystallography, NMR spectroscopy, or cryo-electron microscopy studies. Biophysical techniques such as dynamic light scattering, analytical ultracentrifugation, and thermal stability assays may provide insights into protein folding, oligomerization states, and conformational changes. If needed for structural studies, the His-tag can be removed to avoid potential interference with crystal formation or spectroscopic analysis.

5. Cell-Free Functional Reconstitution Assays

The purified recombinant DRG2 can be added to cell-free systems or reconstituted with other purified components to study its role in developmental processes at the molecular level. This approach allows for controlled investigation of DRG2 function without the complexity of cellular environments. The protein works in combination with other recombinant proteins, nucleotides, and cofactors to dissect specific biochemical pathways and regulatory mechanisms involving DRG2.

Shelf Life

The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.