Epithelial Cell Transforming Sequence 2 (ECT2) Recombinant Protein

PRODUCT OVERVIEW

Product Name	Epithelial Cell Transforming Sequence 2 (ECT2), Recombinant Protein
Full Product Name	Recombinant Epithelial Cell Transforming Sequence 2 (ECT2)
Product Gene Name	ECT2 recombinant protein
Sequence	The target protein is fused with N-terminal His-Tag, its sequence is listed below. MGHHHHHHSG SEF-EGQRGG PI LAPEEIKTIF GSIPDIFDVH TKIKDDLEDL IVNWDESKSI GDIFLKYSKD LVKTYPPFVN FFEMSKETII KCEKQKPRFH AFLKINQAKP ECGRQSLVEL LIRPVQRLPS VALLLNDLKK HTADENPDKS TLEKAIGSLK EVMTHINEDK RKTEAQKQIF DVVYEVDGCP ANLLSSHRSL VQRVETI
Host	E Coli
Form/Format	Supplied as lyophilized form in PBS,pH7.4, containing 5% sucrose, 0.01% sarcosyl.
Purity/Purification	> 95%
Preparation and Storage	Avoid repeated freeze/thaw cycles. Store at 2-8 degree C for one month. Aliquot and store at -80 degree C for 12 months. Stability Test: The thermal stability is described by the loss rate of the targetprotein. The loss rate was determined by accelerated thermal degradation test,that is, incubate the protein at 37 degree C for 48h, and no obvious degradation andprecipitation were observed. (Referring from China Biological Products Standard,which was calculated by the Arrhenius equation.) The loss of this protein is lessthan 5% within the expiration date under appropriate storage condition.
Matching Pairs	Unconjugated Antibody: ECT2 (MBS2006341) Immunogen: ECT2 (MBS2011386)
Matching Pairs	APC-CY7 Conjugated Antibody: ECT2 (MBS2065746) Immunogen: ECT2 (MBS2011386)
Matching Pairs	PE Conjugated Antibody: ECT2 (MBS2065748) Immunogen: ECT2 (MBS2011386)
Matching Pairs	APC Conjugated Antibody: ECT2 (MBS2065750) Immunogen: ECT2 (MBS2011386)
Matching Pairs	Cy3 Conjugated Antibody: ECT2 (MBS2065752) Immunogen: ECT2 (MBS2011386)
Matching Pairs	FITC Conjugated Antibody: ECT2 (MBS2065754) Immunogen: ECT2 (MBS2011386)
Matching Pairs	HRP Conjugated Antibody: ECT2 (MBS2065756) Immunogen: ECT2 (MBS2011386)
Matching Pairs	Biotin Conjugated Antibody: ECT2 (MBS2094527) Immunogen: ECT2 (MBS2011386)
Molecular Weight	23.8kDa
Chromosome Location	Chromosome: 3; NC_000003.11 (172468425..172539264). Location: 3q26.1-q26.2
OMIM	600586
3D Structure	ModBase 3D Structure for Q9H8V3
Supply Chain Verification	Manufactured in a lab with traceable raw materials. Bulk orders can typically be prepared to the customer's specifications, please inquire.

Organism	Homo sapiens (Human)
Expression System	Prokaryotic expression
Residues	Glu453~Ile647 (Accession # Q9H8V3) with N-terminal His-Tag
Endotoxin Level	<1.0EU per 1ug (determined by the LAL method)
Reconstitution	Reconstitute in sterile PBS, pH7.2-pH7.4.
ISO Certification	Manufactured in an ISO 9001:2015 and ISO 13485:2016 Certified Laboratory.
Applications Tested/Suitable for ECT2 recombinant protein	SDS-PAGE, Western Blot (WB), ELISA (EIA), Immunoprecipitation (IP)
Related Product Information for ECT2 recombinant protein	MBS2011386 is a recombinant protein targeting ECT2. Also known as Recombinant Epithelial Cell Transforming Sequence 2 (ECT2). Host: E Coli.
Other Notes	Small volumes of ECT2 recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for ECT2. It may not necessarily be applicable to this product.

NCBI GI #	385198079
NCBI GeneID	1894
NCBI Accession #	NP_001245244.1
UniProt Primary Accession #	Q9H8V3
UniProt Secondary Accession #	Q0MT80; Q2M269; Q6U836; Q9NSV8; Q9NVW9
UniProt Related Accession #	Q9H8V3
GenBank Nucleotide #	NM_001258315.1
NCBI Official Full Name	protein ECT2 isoform a
NCBI Official Synonym Full Names	epithelial cell transforming sequence 2 oncogene
NCBI Official Symbol	ECT2
NCBI Official Synonym Symbols	ARHGEF31
UniProt Protein Name	Protein ECT2
UniProt Synonym Protein Names	Epithelial cell-transforming sequence 2 oncogene
Protein Family	Protein
UniProt Gene Name	ECT2
UniProt Entry Name	ECT2_HUMAN
NCBI Protein Information	protein ECT2; epithelial cell-transforming sequence 2 oncogene
NCBI Summary for ECT2	The protein encoded by this gene is a guanine nucleotide exchange factor and transforming protein that is related to Rho-specific exchange factors and yeast cell cycle regulators. The expression of this gene is elevated with the onset of DNA synthesis and remains elevated during G2 and M phases. In situ hybridization analysis showed that expression is at a high level in cells undergoing mitosis in regenerating liver. Thus, this protein is expressed in a cell cycle-dependent manner during liver regeneration, and is thought to have an important role in the regulation of cytokinesis. Several transcript variants encoding two different isoforms have been found for this gene. [provided by RefSeq, Apr 2012]

UniProt Comments for ECT2	ECT2: Guanine nucleotide exchange factor (GEF) that catalyzes the exchange of GDP for GTP. Promotes guanine nucleotide exchange on the Rho family members of small GTPases, like RHOA, RHOC, RAC1 and CDC42. Required for signal transduction pathways involved in the regulation of cytokinesis. Component of the centralspindlin complex that serves as a microtubule-dependent and Rho-mediated signaling required for the myosin contractile ring formation during the cell cycle cytokinesis. Regulates the translocation of RHOA from the central spindle to the equatorial region. Plays a role in the control of mitotic spindle assembly; regulates the activation of CDC42 in metaphase for the process of spindle fibers attachment to kinetochores before chromosome congression. Involved in the regulation of epithelial cell polarity; participates in the formation of epithelial tight junctions in a polarity complex PARD3-PARD6-protein kinase PRKCQ-dependent manner. Plays a role in the regulation of neurite outgrowth. Inhibits phenobarbital (PB)- induced NR1I3 nuclear translocation. Stimulates the activity of RAC1 through its association with the oncogenic PARD6A-PRKCI complex in cancer cells, thereby acting to coordinately drive tumor cell proliferation and invasion. Also stimulates genotoxic stress-induced RHOB activity in breast cancer cells leading to their cell death. 3 isoforms of the human protein are produced by alternative splicing. Protein type: GEFs, Rac/Rho; GEFs; Motility/polarity/chemotaxis Chromosomal Location of Human Ortholog: 3q26.1-q26.2 Cellular Component: nuclear membrane; tight junction; intracellular membrane-bound organelle; cytoplasm; intercellular junction; midbody; nucleus; cytosol; cleavage furrow Molecular Function: protein binding; signal transducer activity; Rho guanyl-nucleotide exchange factor activity; Rho GTPase binding; protein homodimerization activity; GTPase activator activity Biological Process: positive regulation of cytokinesis; regulation of attachment of spindle microtubules to kinetochore; positive regulation of I-kappaB kinase/NF-kappaB cascade; nerve growth factor receptor signaling pathway; positive regulation of apoptosis; cell morphogenesis; cytokinesis; protein transport; regulation of small GTPase mediated signal transduction; positive regulation of protein import into nucleus; small GTPase mediated signal transduction; activation of protein kinase activity; regulation of protein kinase activity; positive regulation of neuron differentiation; protein homooligomerization
Research Articles on ECT2	**1.** miR-223 functions as a tumor suppresser in osteosarcoma and miR-223/Ect2/p21 signaling is an important pathway that regulates the osteosarcoma cell cycle progression and proliferaion
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