

Ryanodine receptor 1 (RYR1) Recombinant Protein | RYR1 recombinant protein

Recombinant Human Ryanodine receptor 1 (RYR1), partial

CATALOG # AAA113834	HOST E Coli or Yeast or Baculovirus or Mammalian Cell
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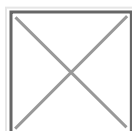
PRODUCT SYNONYMS

Ryanodine receptor 1 (RYR1); Recombinant Human Ryanodine receptor 1 (RYR1); partial; Skeletal muscle calcium release channel; Skeletal muscle ryanodine receptor; Skeletal muscle-type ryanodine receptor; Type 1 ryanodine receptor; RYR1 recombinant protein

PRODUCT SPECIFICATIONS

Host	E Coli or Yeast or Baculovirus or Mammalian Cell
Purity/Purification	Greater or equal to 85% purity as determined by SDS-PAGE.
Form/Format	Lyophilized or liquid (Format to be determined during the manufacturing process)
Sequence Positions	1-534aa; partial
Sequence	MGDAEGEDEV QFLRTDDEVV LQCSATVLKE QLKLCIAAEG FGNRLCFLEP TSNAQNVPPD LAICCFVLEQ SLSVRALQEM LANTVEAGVE SSQGGGHR TL LYGHAILLRH AHSRMYLSCL TTSRSM TDKL AFDVGLQEDA TGEACWWTMH PASKQRSEGE KVRVGDDIIL VSVSSERYLH LSTASGELQV DASFMQTLWN MNPICSRCEE GFVTGGHVLR LFHGHMDECL TISPADSDDQ RRLVYYEGGA VCTHARSLWR LEPLRISWSG SHLRWGQPLR VRHVTTGQYL ALTEDQGLVV VDASKAHTKA TSFCFRISKE KLDVAPKRDV EGMGPPEIKY GESLCFVQHV ASGLWLTYAA PDPKALRLGV LKKKAMLHQE GHMDDALSLT RCQQEESQAA RMIHSTNGLY NQFIKSLDSF SGKPRGSGPP AGTALPIEGV ILSLQDLIY FEPPSEDLQH EEKQSKLRSL RNRQSLFQEE GMLSMVLNCI DRLNVYTAA HFAEFAGEEA AESWKEIVNL LYELLASLIR GNRS
Preparation and Storage	Store at -20 degree C, for extended storage, conserve at -20 degree C or -80 degree C.

IMAGES



SDS-PAGE

ADDITIONAL INFORMATION

Related Product Information for RYR1 recombinant protein	Calcium channel that mediates the release of Ca ²⁺ from the sarcoplasmic reticulum into the cytoplasm and thereby plays a key role in triggering muscle contraction following depolarization of T-tubules. Repeated very high-level exercise increases the open probability of the channel and leads to Ca ²⁺ leaking into the cytoplasm. Can also mediate the release of Ca ²⁺ from intracellular stores in neurons, and may thereby promote prolonged Ca ²⁺ signaling in the brain. Required for normal embryonic development of muscle fibers and skeletal muscle. Required for normal heart morphogenesis, skin development and ossification during embryogenesis.
Product Categories/Family for RYR1 recombinant protein	Transport

References

Molecular cloning of cDNA encoding human and rabbit forms of the Ca²⁺ release channel (ryanodine receptor) of skeletal muscle sarcoplasmic reticulum. Zorzato F., Fujii J., Otsu K., Phillips M.S., Green N.M., Lai F.A., Meissner G., MacLennan D.H. *J. Biol. Chem.* 265:2244-2256(1990) Polymorphisms and deduced amino acid substitutions in the coding sequence of the ryanodine receptor (RYR1) gene in individuals with malignant hyperthermia. Gillard E.F., Otsu K., Fujii J., Duff C.L., de Leon S., Khanna V.K., Britt B.A., Worton R.G., McLennan D.H. *Genomics* 13:1247-1254(1992) A mutation in the human ryanodine receptor gene associated with central core disease. Zhang Y., Chen H.S., Khanna V.K., de Leon S., Phillips M.S., Schappert K.T., Britt B.A., Brownell A.K.W., McLennan D.H. *Nat. Genet.* 5:46-50(1993) The structural organization of the human skeletal muscle ryanodine receptor (RYR1) gene. Phillips M.S., Fujii J., Khanna V.K., de Leon S., Yokobata K., de Jong P.J., McLennan D.H. *Genomics* 34:24-41(1996) The DNA sequence and biology of human chromosome 19. Grimwood J., Gordon L.A., Olsen A.S., Terry A., Schmutz J., Lamerdin J.E., Hellsten U., Goodstein D., Couronne O., Tran-Gyamfi M., Aerts A., Altherr M., Ashworth L., Bajorek E., Black S., Branscomb E., Caenepeel S., Carrano A.V., Caoile C., Chan Y.M., Christensen M., Cleland C.A., Copeland A., Dalin E., Dehal P., Denys M., Detter J.C., Escobar J., Flowers D., Fotopulos D., Garcia C., Georgescu A.M., Glavina T., Gomez M., Gonzales E., Groza M., Hammon N., Hawkins T., Haydu L., Ho I., Huang W., Israni S., Jett J., Kadner K., Kimball H., Kobayashi A., Larionov V., Leem S.-H., Lopez F., Lou Y., Lowry S., Malfatti S., Martinez D., McCready P.M., Medina C., Morgan J., Nelson K., Nolan M., Ovcharenko I., Pitluck S., Pollard M., Popkie A.P., Predki P., Quan G., Ramirez L., Rash S., Retterer J., Rodriguez A., Rogers S., Salamov A., Salazar A., She X., Smith D., Slezak T., Solovyev V., Thayer N., Tice H., Tsai M., Ustaszewska A., Vo N., Wagner M., Wheeler J., Wu K., Xie G., Yang J., Dubchak I., Furey T.S., DeJong P., Dickson M., Gordon D., Eichler E.E., Pennacchio L.A., Richardson P., Stubbs L., Rokhsar D.S., Myers R.M., Rubin E.M., Lucas S.M. *Nature* 428:529-535(2004) Refinement of diagnostic assays for a probable causal mutation for porcine and human malignant hyperthermia. Otsu K., Phillips M.S., Khanna V.K., de Leon S., McLennan D.H. *Genomics* 13:835-837(1992) A substitution of cysteine for arginine 614 in the ryanodine receptor is potentially causative of human malignant hyperthermia. Gillard E.F., Otsu K., Fujii J., Khanna V.K., de Leon S., Derdemezi J., Britt B.A., Duff C.L., Worton R.G., MacLennan D.H. *Genomics* 11:751-755(1991) Ryanodine receptor gene point mutation and malignant hyperthermia susceptibility. Moroni I., Gonano E.F., Comi G.P., Tegazzin V., Prella A., Bordoni A., Bresolin N., Scarlato G.J. *Neurol.* 242:127-133(1995) Isolation and partial cloning of ryanodine-sensitive Ca²⁺ release channel protein isoforms from human myometrial smooth muscle. Lynn S., Morgan J.M., Lamb H.K., Meissner G., Gillespie J.I. *FEBS Lett.* 372:6-12(1995) Partial cloning and differential expression of ryanodine receptor/calcium-release channel genes in human tissues including the hippocampus and cerebellum. Martin C., Chapman K.E., Seckl J.R., Ashley R.H. *Neuroscience* 85:205-216(1998) Cysteine-3635 is responsible for skeletal muscle ryanodine receptor modulation by NO. Sun J., Xin C., Eu J.P., Stamler J.S., Meissner G. *Proc. Natl. Acad. Sci. U.S.A.* 98:11158-11162(2001) S100A1 and calmodulin compete for the same binding site on ryanodine receptor. Wright N.T., Prosser B.L., Varney K.M., Zimmer D.B., Schneider M.F., Weber D.J. *J. Biol. Chem.* 283:26676-26683(2008) Remodeling of ryanodine receptor complex causes 'leaky' channels a molecular mechanism for decreased exercise capacity. Bellinger A.M., Reiken S., Dura M., Murphy P.W., Deng S.X., Landry D.W., Nieman D., Lehnart S.E., Samaru M., LaCampagne A., Marks A.R. *Proc. Natl. Acad. Sci. U.S.A.* 105:2198-2202(2008) Large-scale phosphoproteome analysis of human liver tissue by enrichment and fractionation of phosphopeptides with strong anion exchange chromatography. Han G., Ye M., Zhou H., Jiang X., Feng S., Jiang X., Tian R., Wan D., Zou H., Gu J. *Proteomics* 8:1346-1361(2008) Ryanodine receptors structure, expression, molecular details, and function in calcium release. Lanner J.T., Georgiou D.K., Joshi A.D., Hamilton S.L. *Cold Spring Harb. Perspect. Biol.* 2:E3996-E3996(2010) Samaritan myopathy, an ultimately benign congenital myopathy, is caused by a RYR1 mutation. Bohm J., Leshinsky-Silver E., Vassilopoulos S., Le Gras S., Lerman-Sagie T., Ginzberg M., Jost B., Lev D., Laporte J. *Acta Neuropathol.* 124:575-581(2012) Mutations in the ryanodine receptor gene in central core disease and malignant hyperthermia. Quane K.A., Healy J.M.S., Keating K.E., Manning B.M., Couch F.J., Palmucci L.M., Doriguzzi C., Fagerlund T.H., Berg K., Ording H., Bendixen D., Mortier W., Linz U., Muller C.R., McCarthy T.V. *Nat. Genet.* 5:51-55(1993) Mutation screening of the RYR1 gene in malignant hyperthermia detection of a novel Tyr to Ser mutation in a pedigree with associated central cores. Quane K.A., Keating K.E., Healy J.M.S., Manning B.M., Krivosic-Horber R., Krivosic I., Monnier N., Lunardi J., McCarthy T.V. *Genomics* 23:236-239(1994) Detection of a novel common mutation in the ryanodine receptor gene in malignant hyperthermia implications for diagnosis and heterogeneity studies. Quane K.A., Keating K.E., Manning B.M., Healy J.M.S., Monsieus K., Heffron J.J.A., Lehane M., Heytens L., Krivosic-Horber R., Adnet P., Ellis F.R., Monnier N., Lunardi J., McCarthy T.V. *Hum. Mol. Genet.* 3:471-476(1994) Detection of a novel RYR1 mutation in four malignant hyperthermia pedigrees. Keating K.E., Quane K.A., Manning B.M., Lehane M., Hartung E., Censier K., Urwyler A., Klausnitzer M., Muller C.R., Heffron J.J.A., McCarthy T.V. *Hum. Mol. Genet.* 3:1855-1858(1994) The substitution of Arg for Gly2433 in the human skeletal muscle ryanodine receptor is associated with malignant hyperthermia. Phillips M.S., Khanna V.K., de Leon S., Frodis W., Britt B.A., McLennan D.H. *Hum. Mol. Genet.* 3:2181-2186(1994) Identification of heterozygous and homozygous individuals with the novel RYR1 mutation Cys35Arg in a large kindred. Lynch P.J., Krivosic-Horber R., Reyford H., Monnier N., Quane K.A., Adnet P., Haudecoeur G., Krivosic I., McCarthy T.V., Lunardi J. *Anesthesiology* 86:620-626(1997) Detection of a novel mutation at amino acid position 614 in the ryanodine receptor in malignant hyperthermia. Quane K.A., Ording H., Keating K.E., Manning B.M., Heine R., Bendixen D., Berg K., Krivosic-Horber R., Lehmann-Horn F., Fagerlund T.H., McCarthy T.V. *Br. J. Anaesth.* 79:332-337(1997) Detection of a novel mutation in the ryanodine receptor gene in an Irish malignant hyperthermia pedigree correlation of the IVCT response with the affected and unaffected haplotypes. Keating K.E., Giblin L., Lynch P.J., Quane K.A., Lehane M., Heffron J.J.A., McCarthy T.V. *J. Med. Genet.* 34:291-296(1997) Identification of novel mutations in the ryanodine-receptor gene (RYR1) in malignant hyperthermia genotype-phenotype correlation. Manning B.M., Quane K.A., Ording H., Urwyler A., Tegazzin V., Lehane M., O'Halloran J., Hartung E., Giblin L.M., Lynch P.J., Vaughan P., Censier K., Bendixen D., Comi G.P., Heytens L., Monsieus K., Fagerlund T.H., Wolz W., Heffron J.J.A., Mueller C.R., McCarthy T.V. *Am. J. Hum. Genet.* 62:599-609(1998) Novel mutations at a CpG dinucleotide in the ryanodine

NCBI AND UNIPROT INFORMATION

NCBI GI #	113204615
NCBI GeneID	6261
NCBI Accession #	NP_000531.2
NCBI GenBank Nucleotide #	NM_000540.2
UniProt Accession #	P21817; Q16314; Q16368; Q9NPK1; Q9P1U4
Molecular Weight	63.3 kDa
NCBI Official Full Name	ryanodine receptor 1 isoform 1
UniProt Protein Name	Ryanodine receptor 1
UniProt Gene Name	RYR1
UniProt Synonym Gene Names	RYDR; RYR-1; RyR1
UniProt Entry Name	RYR1_HUMAN

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