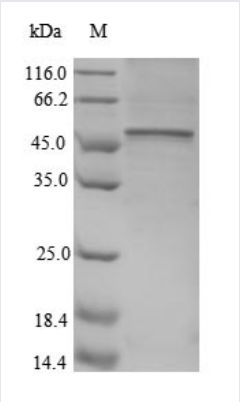
CD40 Ligand (CD40LG) Human Recombinant Protein

PRODUCT OVERVIEW

Product Name	CD40 ligand (CD40LG), Recombinant Protein
Full Product Name	Recombinant Human CD40 ligand
Product Gene Name	CD40LG recombinant protein
Product Synonym Names	T-cell antigen Gp39; TNF-related activation protein; TRAP; Tumor necrosis factor ligand superfamily member 5
Sequence	HRRLDKIEDE RNLHEDFVFM KTIQRCNTGE RSLSLLNCEE IKSQFEGFVK DIMLNKEETK KENSFEMQKG DQNPQIAAHV ISEASSKTTS VLQWAEKGYY TMSNNLVTLE NGKQLTVKRQ GLYYIYAQVT FCSNREASSQ APFIASLCLK SPGRFERILL RAANTHSSAK PCGQQSIHLG GVFELQPGAS VFVNVTDPSQ VSHGTGFTSF GL
Host	E Coli or Yeast or Baculovirus or Mammalian Cell
Form/Format	Liquid or Lyophilized powder If the delivery form is liquid, the default storage buffer is Tris/PBS-based buffer, 5%-50% glycerol. If the delivery form is lyophilized powder, the buffer before lyophilization is Tris/PBS-based buffer, 6% Trehalose, pH 8
Purity/Purification	Greater than 90% as determined by SDS-PAGE. (lot specific)
Preparation and Storage	Store at -20 degree C, for extended storage, conserve at -20 degree C or -80 degree C.
Molecular Weight	50.8 kDa
Sequence Positions	47-258aa; Extracellular Domain
Tag Information	This protein contains an N-terminal tag and may also contain a C-terminal tag. Tag types are determined by various factors including tag-protein stability, please inquire for tag information.
Sterility	Sterile filter available upon request.
Endotoxin	Low endotoxin available upon request.
OMIM	300386
3D Structure	ModBase 3D Structure for P29965
Product Categories/Family for CD40LG recombinant protein	Cardiovascular
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for CD40LG recombinant protein	Mediates B-cell proliferation in the absence of co-stimulus as well as IgE production in the presence of IL-4. Involved in immunoglobulin class switching.

Product References and Citations for CD40LG recombinant protein	Cloning of TRAP, a ligand for CD40 on human T cells.Graf D., Korthaeuer U., Mages H.W., Senger G., Kroczek R.A.Eur. J. 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Chem. 271:5965-5967(1996) Determination of carbohydrate structures N-linked to soluble CD154 and characterization of the interactions of CD40 with CD154 expressed in Pichia pastoris and Chinese hamster ovary cells.Khandekar S.S., Silverman C., Wells-Marani J., Bacon A.M., Birrell H., Brigham-Burke M., De;Marini D.J., Jonak Z.L., Camilleri P., Fishman-Lobell J.Protein Expr. Purif. 23:301-310(2001) Release of soluble CD40L from platelets is regulated by glycoprotein IIb/IIIa and actin polymerization.Furman M.I., Krueger L.A., Linden M.D., Barnard M.R., Frelinger A.L. III, Michelson A.D.J. Am. Coll. Cardiol. 43:2319-2325(2004) 2-A crystal structure of an extracellular fragment of human CD40 ligand.Karpsusas M., Hsu Y.-M., Wang J.-H., Thompson J., Lederman S., Chess L., Thomas D.Structure 3:1031-1039(1995) The role of polar interactions in the molecular recognition of CD40L with its receptor CD40.Singh J., Garber E., van Vlijmen H., Karpsusas M., Hsu Y.-M., Zheng Z., Naismith J.H., Thomas D.Protein Sci. 7:1124-1135(1998) Defective expression of T-cell CD40 ligand causes X-linked immunodeficiency with hyper-IgM.Korthaeuer U., Graf D., Mages H.W., Briere F., Padayachee M., Malcolm S., Ugazio A.G., Notarangelo L.D., Levinsky R.J., Kroczek R.A.Nature 361:539-541(1993) CD40 ligand mutations in X-linked immunodeficiency with hyper-IgM.Disanto J.P., Bonnefoy J.-Y., Gauchat J.-F., Fischer A., de Saint Basile G.Nature 361:541-543(1993) CD40 ligand gene defects responsible for X-linked hyper-IgM syndrome.Allen R.C., Armitage R.J., Conley M.E., Rosenblatt H., Jenkins N.A., Copeland N.G., Bedell M.A., Edelhoff S., Disteche C.M., Simoneaux D.K., Fanslow W.C., Belmont J.W., Spriggs M.K.Science 259:990-993(1993) Characterization of nine novel mutations in the CD40 ligand gene in patients with X-linked hyper IgM syndrome of various ancestry.Macchi P., Villa A., Strina D., Sacco M.G., Morali F., Brugnoni D., Giliani S., Mantuano E., Fasth A., Andersson B., Zegers B.J.M., Cavagni G., Reznick I., Levy J., Zan-Bar I., Porat Y., Airo P., Plebani A., Vezzoni P., Notarangelo L.D.Am. J. Hum. Genet. 56:898-906(1995) Signaling through CD40 rescues IgE but not IgG or IgA secretion in X-linked immunodeficiency with hyper-IgM.Saiki O., Tanaka T., Wada Y., Uda H., Inoue A., Katada Y., Izeki M., Iwata M., Nunoi H., Matsuda I.J. Clin. Invest. 95:510-514(1995) Mutation analysis in CD40 ligand deficiency leading to X-linked hypogammaglobulinemia with hyper IgM syndrome.Katz F., Hinshelwood S., Rutland P., Jones A., Kinnon C., Morgan G.3.0.CO;2-A>Hum. Mutat. 8:223-228(1996) A single strand conformation polymorphism study of CD40 ligand. Efficient mutation analysis and carrier detection for X-linked hyper IgM syndrome.Lin Q., Rohrer J., Allen R.C., Larche M., Greene J.M., Shigeoka A.O., Gatti R.A., Derauf D.C., Belmont J.W., Conley M.E.J. Clin. Invest. 97:196-201(1996) Mutations of the CD40 ligand gene in 13 Japanese patients with X-linked hyper-IgM syndrome.Nonoyama S., Shimadzu M., Toru H., Seyama K., Nunoi H., Neubauer M., Yata J., Och H.D.Hum. Genet. 99:624-627(1997) Mutations of the CD40 ligand gene and its effect on CD40 ligand expression in patients with X-linked hyper IgM syndrome.Seyama K., Nonoyama S., Gangsaas I., Hollenbaugh D., Pabst H.F., Aruffo A., Ochs H.D.Blood 92:2421-2434(1998)
Other Notes	Small volumes of CD40LG 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.
Searchable Terms for CD40LG purchase	MBS1265494 is a recombinant protein targeting CD40LG. Also known as Recombinant Human CD40 ligand. Host: E Coli or Yeast or Baculovirus or Mammalian Cell.



SDS-PAGE of CD40LG recombinant protein

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for CD40LG. It may not necessarily be applicable to this product.

NCBI GI #	4557433
NCBI GeneID	959
NCBI Accession #	NP_000065.1
UniProt Primary Accession #	P29965
UniProt Related Accession #	P29965
GenBank Nucleotide #	NM_000074.2
NCBI Official Full Name	CD40 ligand
NCBI Official Synonym Full Names	CD40 ligand
NCBI Official Symbol	CD40LG
NCBI Official Synonym Symbols	IGM; IMD3; TRAP; gp39; CD154; CD40L; HIGM1; T-BAM; TNFSF5; hCD40L
UniProt Protein Name	CD40 ligand
UniProt Synonym Protein Names	T-cell antigen Gp39; TNF-related activation protein; TRAP
Protein Family	CD40 ligand
UniProt Gene Name	CD40LG
UniProt Synonym Gene Names	CD40L; TNFSF5; TRAP; CD40-L; TRAP
UniProt Entry Name	CD40L_HUMAN
NCBI Protein Information	CD40 ligand
NCBI Summary for CD40LG	The protein encoded by this gene is expressed on the surface of T cells. It regulates B cell function by engaging CD40 on the B cell surface. A defect in this gene results in an inability to undergo immunoglobulin class switch and is associated with hyper-IgM syndrome. [provided by RefSeq, Jul 2008]

UniProt Comments for CD40LG	CD40LG: Mediates B-cell proliferation in the absence of co- stimulus as well as IgE production in the presence of IL-4. Involved in immunoglobulin class switching. Defects in CD40LG are the cause of X-linked immunodeficiency with hyper-IgM type 1 (HIGM1); also known as X-linked hyper IgM syndrome (XHIM). HIGM1 is an immunoglobulin isotype switch defect characterized by elevated concentrations of serum IgM and decreased amounts of all other isotypes. Affected males present at an early age (usually within the first year of life) recurrent bacterial and opportunistic infections, including Pneumocystis carinii pneumonia and intractable diarrhea due to cryptosporidium infection. Despite substitution treatment with intravenous immunoglobulin, the overall prognosis is rather poor, with a death rate of about 10% before adolescence. Belongs to the tumor necrosis factor family. Protein type: Membrane protein, integral; Cell adhesion Chromosomal Location of Human Ortholog: Xq26 Cellular Component: external side of plasma membrane; extracellular space; integral to membrane; integral to plasma membrane; plasma membrane Molecular Function: CD40 receptor binding; cytokine activity; tumor necrosis factor receptor binding Biological Process: B cell differentiation; B cell proliferation; immunoglobulin secretion; inflammatory response; isotype switching; leukocyte adhesion; negative regulation of apoptosis; platelet activation; positive regulation of interleukin-12 production; regulation of immune response; regulation of immunoglobulin secretion; tumor necrosis factor-mediated signaling pathway Disease: Immunodeficiency With Hyper-igm, Type 1
Research Articles on CD40LG	**1.** Report targeting and liposomal drug delivery of methotrexate to CD40L expressing T cells for treatment of autoimmune diseases.
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