

Product Information

CD30 Ligand

Mouse, Recombinant
Expressed in NSO cells

Product Number **C 6237**

Product Description

Recombinant Mouse CD30 Ligand (CD30L) is produced from a DNA sequence encoding amino acid residues Gln 68 - Asp 239 of mouse CD30 ligand¹ fused to the signal peptide of human CD33 and a polyhistidine-containing linker. The protein is expressed in mouse myeloma NSO cells. Met 17 from the CD33 signal peptide is retained in the recombinant mature mouse CD30 ligand. Recombinant mature mouse CD30L (199 amino acids) has a calculated molecular mass of approximately 22 kDa. Due to glycosylation, the recombinant protein migrates to approximately 30-45 kDa in SDS-PAGE under non-reducing and reducing conditions.

CD30 Ligand (CD30L) is a type II membrane protein of the tumor necrosis factor (TNF) superfamily. It is expressed on the cell surface of activated T cells, B cells, and monocytes.² CD30L is also constitutively expressed on granulocytes and medullary thymic epithelial cells. Human and mouse CD30 ligand share approximately 70% sequence homology.

The specific receptor for CD30L is CD30, a type I transmembrane glycoprotein belonging to the TNF receptor superfamily. CD30 was originally identified as a cell surface antigen of Hodgkin's and Reed-Sternberg cells using monoclonal antibody Ki-1. The binding of CD30L to CD30 mediates pleiotropic effects including cell proliferation, activation, differentiation, and apoptotic cell death. CD30 has a critical role in the pathophysiology of Hodgkin's disease and other CD30⁺ lymphomas and acts as a costimulatory molecule in thymic negative selection.³

Reagent

Recombinant Mouse CD30 Ligand is supplied as approximately 50 µg of protein lyophilized from a 0.2 µm filtered solution in phosphate buffered saline containing 2.5 mg bovine serum albumin.

Preparation Instructions

Reconstitute the contents of the vial using sterile phosphate-buffered saline (PBS) containing at least 0.1% human serum albumin or bovine serum albumin. Prepare a stock solution of no less than 50 µg/ml.

Storage/Stability

Store at -20 °C. Upon reconstitution, the product may be stored from 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Do not store in a frost-free freezer.

Product Profile

Recombinant Mouse CD30 Ligand is measured by its ability to induce proliferation of mouse splenic B cells.⁴

The ED₅₀ for this effect is typically 50-150 ng/ml in the presence of 10 µg/ml of a cross-linking antibody, such as mouse anti-6X histidine.

The ED₅₀ is defined as the effective concentration of cytokine that elicits a 50% increase in cell growth in a cell based bioassay.

Purity: > 95% as determined by SDS-PAGE, visualized by silver stain.

Endotoxin level is < 1.0 endotoxin units/µg cytokine as determined by the LAL (Limulus amoebocyte lysate) method.

References

1. Smith, C.A., et al, CD30 antigen, a marker for Hodgkin's lymphoma, is a receptor whose ligand defines an emerging family of cytokines with homology to TNF. *Cell*, **73**, 1349-1360 (1993).
2. Gruss, H.J., et al., CD30 ligand expression in nonmalignant and Hodgkin's disease-involved lymphoid tissues. *Am. J. Pathol.*, **149**, 469-481 (1996).

3. Chiarle, R., et al., CD30 overexpression enhances negative selection in the thymus and mediates programmed cell death via a Bcl-2-sensitive pathway. *J. Immunol.*, **163**, 194-205 (1999).
4. Shanebeck, K.D., et al., Regulation of murine B cell growth and differentiation by CD30 ligand. *Eur. J. Immunol.*, **25**, 2147-2153 (1995).

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