

#### DESCRIPTION

**Source** *E. coli*-derived  
Glu108-Leu261, with an N-terminal Met  
Accession # P29965

**N-terminal Sequence Analysis** Met

**Predicted Molecular Mass** 16.9 kDa (monomer)

#### SPECIFICATIONS

**SDS-PAGE** 18 kDa, reducing conditions

**Activity** Measured in a cell proliferation assay using B cell-enriched peripheral blood mononuclear cells (PBMC) in the presence of IL-4. Spriggs, M.K. *et al.* (1992) *J. Exp. Med.* **176**:1543.  
The ED<sub>50</sub> for this effect is typically 1 – 3 µg/mL in the presence of 20 ng/mL of rhIL-4.

**Endotoxin Level** <1.0 EU per 1 µg of the protein by the LAL method.

**Purity** >97%, by SDS-PAGE under reducing conditions and visualized by silver stain.

**Formulation** Lyophilized from a 0.2 µm filtered solution in NaH<sub>2</sub>PO<sub>4</sub>, NaCl and EDTA. See Certificate of Analysis for details.

#### PREPARATION AND STORAGE

**Reconstitution** Reconstitute at 500 µg/mL in PBS.

**Shipping** The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage** **Use a manual defrost freezer and avoid repeated freeze-thaw cycles.**

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 3 months, 2 to 8 °C under sterile conditions after reconstitution.

#### BACKGROUND

CD40 ligand, CD40L (also known as CD154, TRAP or gp39), is a 261 amino acid type II transmembrane glycoprotein belonging to the TNF family, CD40L is expressed predominantly on activated CD4<sup>+</sup> T lymphocytes, and also found in other types of cells, like NK cells, mast cells, basophils and eosinophils. Human CD40L shares 78% amino acid identity with its murine counterpart. The receptor of CD40L is CD40, a type I transmembrane glycoprotein belonging to the TNF receptor family. CD40 is expressed on B lymphocytes, monocytes, dendritic cells and thymic epithelium. Although all monomeric, dimeric and trimeric forms of soluble CD40L can bind to CD40, the trimeric form of soluble CD40L has the most potent biological activity through oligomerization of cell surface CD40, a common feature of TNF receptor family members. CD40L mediates a range of activities on B cells including induction of activation-associated surface antigen, entry into cell cycle, isotype switching and Ig secretion and memory generation. CD40-CD40L interaction also plays important roles in monocyte activation and dendritic cell maturation.

#### References:

1. Armitage, R.J. *et al.* (1992) *Nature* **357**:80.
2. Hollenbaugh, D. *et al.* (1992) *EMBO J.* **11**:4313.
3. Spriggs, M.K. *et al.* (1992) *J. Exp. Med.* **176**:1543.
4. Fanslow, W.C. *et al.* (1994) *Seminars in Immunology* **6**:267.
5. Kooten, C.V. and J. Banchereau (2000) *J. Leukoc. Biol.* **67**:2.