**Human CD40 Ligand (hCD40L)**

**Source:** Recombinant human CD40 Ligand (hCD40L) Met113-Leu261 (Accession #P29965) was produced in *E. coli* at Cell Signaling Technology.

**Molecular Characterization:** Recombinant hCD40L has a Met on the amino terminus and has a calculated MW of 16,184. DTT-reduced and non-reduced protein migrate as 16 kDa polypeptides. The expected amino terminus MQKGD of recombinant hCD40L was verified by amino acid sequencing.

**Endotoxin:** Less than 0.01 ng endotoxin/1 µg hCD40L.

**Purity:** >98% as determined by SDS-PAGE of 6 µg reduced (+) and non-reduced (-) recombinant hCD40L. All lots are greater than 98% pure.

**Bioactivity:** The bioactivity of recombinant hCD40L was determined in a cell proliferation assay using human B cells. The ED_{50} of each lot is between 0.5-2 µg/ml.

**Formulation:** With carrier: Lyophilized from a 0.22 µm filtered solution of PBS, pH 7.2 containing 20 µg BSA per 1 µg hCD40L. Carrier free: Lyophilized from a 0.22 µm filtered solution of PBS, pH 7.2.

**Storage:** Stable in lyophilized state at 4ºC for 1 year after receipt. Sterile stock solutions reconstituted with carrier protein are stable at 4ºC for 2 months and at -20ºC for 6 months. Avoid repeated freeze-thaw cycles.

Maintain sterility. Storage at -20ºC should be in a manual defrost freezer.

**Applications:** Optimal concentration for the desired application should be determined by the user.

**Background:** CD40 Ligand (CD40L), a member of the TNF superfamily of ligands, is expressed as either a membrane-bound or soluble homotrimer (1). Both membrane-bound and soluble forms of CD40L have biological activity (1,2). CD40L is expressed primarily on activated T cells; however, mast cells, basophils, and NK cells may also express CD40L (1). CD40L functions as an important T cell co-stimulatory molecule and enhances T-dependent B cell responses (1,2). CD40L binds CD40, which is a receptor expressed on B cells, dendritic cells, and macrophages (1). Binding of CD40L to CD40 leads to the activation of the JNK and NF-κB pathways (1,2).

**Background References:**