

## Product Information

### FLT-3 RECEPTOR (FLK-2, STK-1)/Fc CHIMERA

Human, Recombinant  
Expressed in mouse NSO cells

Product Number **F 8800**

#### Product Description

Flt-3 Receptor/Fc Chimera<sup>1</sup> is produced from a DNA sequence encoding the extracellular domain of human Flt-3. The disulfide-linked homodimeric mature recombinant soluble Flt-3, formed after removal of the 26 amino acid residue signal peptide, contains two 759 amino acid residue subunits. Each subunit has a calculated molecular mass of approximately 85.5 kDa. As a result of glycosylation, the reduced protein migrates to 120 kDa in SDS-PAGE.

The Flt-3 (*fms*-like tyrosine kinase-3)/Flk-2 (fetal liver kinase-2)/ Stk-1 (stem cell tyrosine kinase) Receptor is a member of the class III subfamily of receptor tyrosine kinases that also includes *c-kit*, the receptor for SCF and *c-fms*, the receptor for M-CSF. These receptors function with their respective ligands to control differentiation of hematopoietic and non-hematopoietic cells.<sup>2,3</sup> The extracellular region of the class III receptor tyrosine kinases contains five immunoglobulin-like domains and the intracellular region contains a split kinase domain. Flt-3 receptor is expressed in a variety of tissues including placenta, gonads, and tissues of nervous and hematopoietic origin. In the hematopoietic system, the expression of Flt-3 receptor is restricted to the precursor/progenitor cells.<sup>1</sup>

Human and mouse Flt-3 shares 85 % amino acid sequence identity and exhibit full species cross-reactivity. The ligand for human Flt-3 (FL) is a trans-membrane protein with structural homology to M-CSF and SCF. FL is widely expressed in human and mouse tissues. In *in vitro* studies, FL shows relatively few effects by itself on the proliferation and differentiation of hematopoietic cells, but exhibits a potent costimulatory activity in enhancing proliferation of progenitor cells of multiple lineages. In addition, FL acts in synergy with IL-7 to induce proliferation of pro-B cells. Recombinant soluble Flt-3/Fc chimeric protein binds to FL with high affinity and is a potent FL antagonist.

#### Reagent

Recombinant Human Flt-3 Receptor is supplied as approximately 50 µg of protein lyophilized from a 0.2 µm filtered solution in phosphate buffered saline (PBS) containing 2.5 mg of 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, store at 2 °C to 8 °C for 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 Human Flt-3 Receptor/Fc Chimera is measured by its ability to inhibit recombinant human Flt-3 ligand-induced proliferation of a Flt-3 transfected pro-B cell line.

The ED<sub>50</sub> for this effect is typically 0.01 µg/ml to 0.03 µg/ml in the presence of recombinant human Flt-3 ligand at 2 ng/ml.

The ED<sub>50</sub> is defined as the effective concentration of growth factor 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 < 0.1 ng/µg protein as determined by the LAL (Limulus amoebocyte lysate) method.

#### References

1. Small, D., et al., Proc. Natl. Acad. Sci. USA, **91**, 459-463 (1994).
2. Hannum, C., et al., Nature, **368**, 643-648 (1994).
3. Rohrschneider, L.R. in Guidebook to Cytokines and Their Receptors, (Nicola, A., ed.), Oxford Univ. Press, Oxford, UK, pp. 168-170 (1995).

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