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Product Information

EphA2/Fc Chimera
mouse, recombinant
expressed in mouse NSO cells

Catalog Number **E8027**
Storage Temperature –20 °C

Product Description

Recombinant mouse EphA2/Fc Chimera consists of amino acid residues 1-535 (extracellular domain of mouse EphA2)[1] fused by means of a polypeptide linker to the Fc portion of human IgG1 that is histidine-tagged at the C-terminus. The chimeric protein is expressed in a mouse myeloma cell line, NSO. Recombinant EphA2 is a disulfide-linked homodimer. The amino terminus is Ala^{22} based on N-terminal sequencing. The calculated molecular mass of the reduced protein is ~84 kDa, but as a result of glycosylation, the recombinant EphA1/Fc chimera migrates as an ~105 kDa protein on reducing SDS-PAGE.

The Eph receptor family, of which EphA2 is a member, binds members of the Ephrin ligand family. Two classes of receptors exist, designated A and B, that have an extracellular domain made up of a globular domain, a cysteine-rich domain, and two fibronectin type III domains, followed by the transmembrane region and cytoplasmic region. The cytoplasmic region is a juxtamembrane region with two tyrosines, the major autophosphorylation sites, along with a kinase domain, and a conserved sterile alpha motif (SAM) in the C-terminus, the latter including one conserved tyrosine. Ligand recognition and binding leads to kinase activation of the intrinsic kinase activity. EphA2 binds to Ephrin-A1, Ephrin-A2, Ephrin-A3, Ephrin-A4, and Ephrin-A5.[2,3] Human and mouse EphA2 extracellular domains share ~92% homology. Only membrane-bound or Fc-clustered ligands have been shown to activate the receptor *in vitro*. Soluble monomeric ligands can bind the receptor, but do not induce receptor autophosphorylation and activation.[2] The ligands and receptors display reciprocal expression *in vivo*.[3]

Nearly all Ephrin-related receptors and ligands have been found to be expressed in developing and adult neural tissue.[3] The Eph/Ephrin families may also play a role in angiogenesis.[3]

The product is lyophilized from a 0.2 μm filtered solution of 20 mM Tris, pH 8.0.

EphA2/Fc activity is measured by its ability to bind immobilized recombinant mouse ephrin-A1/Fc in a functional ELISA assay. Immobilized recombinant mouse EphA2/Fc (2 μg/ml, 100 μl/well) binds recombinant mouse Ephrin-A1/Fc with a linear range of 0.78–5.0 ng/ml. Optimal dilutions should be determined by each laboratory for each application.

Purity: >95% (SDS-PAGE)

Endotoxin level: <0.1 ng/μg of protein
[LAL (Limulus amebocyte lysate) method]

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Reconstitute the vial contents with sterile PBS. Stock solution concentration should be ≥100 μg/ml.

Storage/Stability

The product is stable for more than six months at –20 °C. Upon reconstitution, store at 2–8 °C for up to one month. For extended storage, store in working aliquots at –20 °C. Repeated freeze-thaw cycles should be avoided. Do not store in a frost-free freezer.

References

1. Ganju, P. *et al*, The Eck receptor tyrosine kinase is implicated in pattern formation during gastrulation, hindbrain segmentation and limb development. *Oncogene*, **9,** 1613-1624 (1994).
2. Flanagan, J.G. and P. Vanderhaegen, The ephrins and Eph receptors in neural development. *Annu. Rev. Neurosci*., **21,** 309–345 (1998).
3. Pasquale, E.B., The Eph family of receptors. *Curr. Opin. Cell Biol*., **9,** 608–615 (1997).

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