

FLT3 Protein, Human, Recombinant (hFc)

General Information

Synonyms:	FLK2;CD135;fms-related tyrosine kinase 3;FLK-2;STK1
Protein Construction:	A DNA sequence encoding the human FLT3 (NP_004110.2) (Asn27-Ser543) was expressed with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Asn 27
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P36888-1
Molecular Weight:	85.06 kDa (predicted)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 95 % as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

The cluster of differentiation (CD) system is commonly used as cell markers in Immunophenotyping. Different kinds of cells in the immune system can be identified through the surface CD molecules which associating with the immune function of the cell. There are more than 320 CD unique clusters and subclusters have been identified. Some of the CD molecules serve as receptors or ligands important to the cell through initiating a signal cascade which then alter the behavior of the cell. Some CD proteins do not take part in cell signal process but have other

functions such as cell adhesion. CD135, also known as FLT-3, FLK-2, is a member of the CD system. CD135 is an important cell surface marker recognized by specific sets of antibodies to identify the types of hematopoietic (blood) progenitors in the bone marrow and its function to differentiate hematopoietic stem cells, which are CD135 negative, from multipotent progenitors, which are CD135 positive. CD135 is a receptor tyrosine kinase type III for the cytokine Flt3 ligand and activates signaling through second messengers by binding to Flt3. Signaling through CD135 is important for lymphocyte development. The encoding gene CD135 is a proto-oncogene to which mutations happened will lead to cancer such as leukemia. Cancer Immunotherapy Immune Checkpoint Immunotherapy Targeted Therapy

Reference

- Zola H, et al. (2007) CD molecules 2006-human cell differentiation molecules. *J Immunol Methods*. 318 (1-2): 1-5.
- Ho IC, et al. (2009) GATA3 and the T-cell lineage: essential functions before and after T-helper-2-cell differentiation. *Nat Rev Immunol*. 9 (2): 125-35.
- Matesanz-Isabel J, et al. (2011) New B-cell CD molecules. *Immunology Letters*. 134 (2): 104-12.
- Bertho, et al. (2000) CD135 (Flk2 / Flt3) Expression by Human Thymocytes Delineates a Possible Role of FLT3-Ligand in T-Cell Precursor Proliferation and Differentiation. *Scandinavian Journal of Immunology*. 52 (1): 53-61.

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