

## TIE2 Protein, Rat, Recombinant (hFc)

### General Information

|                       |  |
|-----------------------|--|
| Synonyms:             | TEK tyrosine kinase, endothelial   |
| Protein Construction: | A DNA sequence encoding the rat TEK (NP_001099207.1) extracellular domain (Met 4-Leu 743) was fused with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Ala 23 |
| Species:              | Rat  |
| Expression Host:      | HEK293 Cells   |
| Accession:            | A6JRG8   |
| Molecular Weight:     | 108 kDa (predicted); 120-130 kDa (reducing condition, due to glycosylation)  |

### QC Testing

|                      |  |
|----------------------|--|
| Biological Activity: | 1. Measured by its binding ability in a functional ELISA.<br>2. Immobilized S1h-3C-mANGPT2 at 10 µg/mL (100 µL/well) can bind ratTEK-Fc. The EC50 of ratTEK-Fc is 0.26-0.62µg/mL.  |
| 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

TEK, or TIE-2, is an endothelial cell-specific receptor tyrosine kinase (RTK) that is known as a functioning molecule of vascular endothelial cells. TEK comprises a subfamily of RTK with TIE, and these two receptors play critical roles in vascular maturation, maintenance of integrity and remodeling. Targeted mutagenesis of both Tek and its

agonistic ligand, Angiopoietin-1, result in embryonic lethality, demonstrating that the signal transduction pathways mediated by this receptor are crucial for normal embryonic development. TEK signaling is indispensable for the development of the embryonic vasculature and suggests that TEK signaling may also be required for the development of the tumor vasculature.

### Reference

Jones N, et al. (1998) The Tek / Tie2 receptor signals through a novel Dok-related docking protein, Dok-R. *Oncogene*. 17(9): 1097-108.

Sato A, et al. (1998) Characterization of TEK receptor tyrosine kinase and its ligands, Angiopoietins, in human hematopoietic progenitor cells. *Int Immunol*. 10(8): 1217-27.

Huang L, et al. (1995) GRB2 and SH-PTP2: potentially important endothelial signaling molecules downstream of the TEK / TIE2 receptor tyrosine kinase. *Oncogene*. 11(10): 2097-103.

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