

## TYRO3 Protein, Mouse, Recombinant (His)

### General Information

Synonyms:	BYK;TYRO3;Brt;Rse;TIF;DTK;SKY
Protein Construction:	Arg31-Asp419
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	P55144-2
Molecular Weight:	43 kDa (predicted). Due to glycosylation, the protein migrates to 60-75 kDa based on Tris-Bis PAGE result.

### QC Testing

Biological Activity:	Mouse TYRO3, His Tag immobilized on CM5 Chip can bind Mouse GAS6, His Tag with an affinity constant of 11.31 $\mu\text{M}$ as determined in SPR assay (Biacore T200).
Purity:	> 95% as determined by Tris-Bis PAGE; > 95% as determined by HPLC
Endotoxin:	< 1.0 EU/ $\mu\text{g}$ of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 $\mu\text{m}$ filter, containing PBS (pH 7.4). Typically, 8% trehalose is incorporated as a protective agent before lyophilization.

### Preparation and Storage

#### Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100  $\mu\text{g}/\text{ml}$ . Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

#### Stability & Storage:

It is recommended to store recombinant proteins at  $-20^{\circ}\text{C}$  to  $-80^{\circ}\text{C}$  for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at  $-80^{\circ}\text{C}$ . For reconstituted protein solutions, the solution can be stored at  $-20^{\circ}\text{C}$  to  $-80^{\circ}\text{C}$  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 TAM receptors (Tyro3, Axl and MerTK) are promising therapeutic targets on tumor-associated macrophages. The TAM receptors are a family of receptor tyrosine kinases with shared ligands Gas6 and Protein S that skew macrophage polarization towards a pro-tumor M2-like phenotype. In macrophages, the TAM receptors also promote apoptotic cell clearance, a tumor-promoting process called efferocytosis. The TAM receptors bind the "eat-me" signal phosphatidylserine on apoptotic cell membranes using Gas6 and Protein S as bridging ligands.

Reference

Myers KV, Amend SR, Pienta KJ. Targeting Tyro3, Axl and MerTK (TAM receptors): implications for macrophages in the tumor microenvironment. Mol Cancer. 2019 May 14;18(1):94. doi: 10.1186/s12943-019-1022-2. PMID: 31088471; PMCID: PMC6515593.

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