Recombinant Mouse Tyro3/Dtk His-tag

Catalog Number: 10480-DT

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived mouse Tyro3/Dtk protein Ala31-Thr418, with a C-terminal 6-His tag Accession # P55144.2
N-terminal Sequence Analysis	Ala31
Predicted Molecular Mass	42 kDa

SPECIFICATIONS

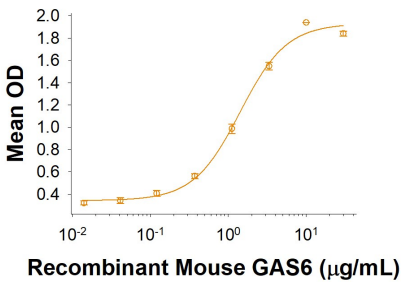
SDS-PAGE	60-75 kDa, under reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Mouse Tyro3/Dtk His-tag (Catalog # 10480-DT) is immobilized at 1 µg/mL (100 µL/well), Recombinant Mouse Gas6 (Catalog # 8310-GS) binds with an ED_{50} of 0.4-2.4 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

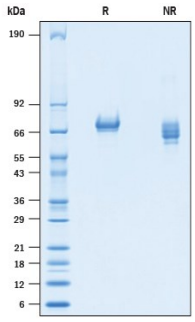
DATA

Binding Activity



When Recombinant Mouse Tyro3/Dtk His-tag Protein is immobilized at 1 µg/mL (100 µL/well), Recombinant Mouse GAS6 (Full Length) Protein (Catalog # 8310-GS) binds with an ED_{50} of 0.4-2.4 µg/mL.

SDS-PAGE



2 µg/lane of Recombinant Mouse Tyro3/Dtk His-tag Protein (Catalog # 10480-DT) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 60-75 kDa.

BACKGROUND

Dtk (Sky, Tyro3, Rse, Brt), Axl (Ufo, Ark), and Mer (human and mouse homologues of chicken c-Eyk) constitute a new receptor tyrosine kinase subfamily. Mouse DTK is a 42kDa protein with a 30 amino acid (aa) signal sequence, 389 aa extracellular domain (ECD), and a 20 aa transmembrane segment. The ECD of mouse DTK shares 85% and 96% sequence identity with the ECD of human and rat respectively. The extracellular domain of these proteins contains two Ig-like motifs and two fibronectin type III motifs. This characteristic topology is also found in neural cell adhesion molecules and in receptor tyrosine phosphatases. All three receptors bind the vitamin K-dependent protein growth-arrest specific gene 6 (Gas6) which is structurally related to the anticoagulation factor protein S. The binding affinities for Gas6 is in the order of Axl > Dtk > Mer. Gas6 binding induces tyrosine phosphorylation and downstream signaling pathways that can lead to cell proliferation, migration, or the prevention of apoptosis. Dtk is widely expressed during embryonic development. In adults, Dtk is predominantly expressed in neurons in restricted regions of the brain. In embryoid stem cells growing in the presence of leukemia inhibitory factor, DTK is abundantly expressed and this level of expression is maintained in differentiating embryoid stem cells and cystic embryoid bodies. In mid-gestational embryos, DTK RNA is expressed in many tissues including brain, eye, thymus, lung, heart, gut, liver, testis and limbs. In contrast, expression of DTK in adult mice becomes restricted to brain, portions of gastrointestinal tract, bladder, testis and ovary. Overexpression of DTK and several other receptor tyrosine kinase have been found in small cell lung cancer (4).

References:

1. Nagata, K. *et al.* (1996) J. Biol. Chem. **22**:30022.
2. Crosier, K.E. and P.S Crosier (1997) Pathology **29**:131.
3. Crosier, P. *et al.* (1994) Growth Factors **11**:125.
4. Hamilton, G. *et al.* (2015) Oncoscience **2**:629.

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