

# Tyro3 (9A3F2): sc-81161

## BACKGROUND

Receptor tyrosine kinases (RTKs) represent an important class of transmembrane signaling molecules. Binding of the extracellular domain of an RTK to its cognate ligand leads to receptor dimerization and the activation of the intrinsic tyrosine kinase activity of its intracellular kinase domain. The Axl/UFO subfamily of receptor tyrosine kinases is comprised of members Tyro3 (also referred to as BYK, Brt, Dtk, Rse, Tif or Sky), Axl (also called Tyro7 or UFO) and Mer (also called Nyk, c-Eyk and Tyro12). Members of this family have a common molecular structure which contains an N-terminal extracellular domain comprised of two Ig domains, two FNIII domains and a membrane-spanning single helix followed by the cytoplasmic tyrosine kinase domain. These RTKs are functionally significant in spermatogenesis, immunoregulation and phagocytosis. Tyro3, Axl and Mer are widely expressed in adult tissues with their expression most abundant in brain, testis, lymphatic and vascular tissue. Tyro3 has been shown to undergo posttranslational modifications including both tyrosine phosphorylation as well as glycosylation. Two proteins, Protein S and Gas6, have been proposed as ligands for the Axl/UFO family of receptors. Both function as anti-coagulants through an unknown mechanism. Gas6 was cloned as a growth arrest-specific gene, while Protein S is an abundant serum protein which is thought to act by indirectly inhibiting proteases involved in the coagulation response.

## REFERENCES

- Janssen, J.W.G., et al. 1991. A novel putative tyrosine kinase receptor with oncogenic potential. *Oncogene* 6: 2113-2120.
- Schlessinger, J., et al. 1992. Growth factor signaling by receptor tyrosine kinases. *Neuron* 9: 383-391.
- Mark, M.R., et al. 1994. Rse, a novel receptor-type tyrosine kinase with homology to Axl/UFO, is expressed at high levels in the brain. *J. Biol. Chem.* 269: 10720-10728.
- Biesecker, L.G., et al. 1995. Identification of alternative exons, including a novel exon, in the tyrosine kinase receptor gene Etk2/Tyro3 that explain differences in 5' cDNA sequences. *Oncogene* 10: 2239-2242.
- Taylor, I.C.A., et al. 1995. Overexpression of the Sky receptor tyrosine kinase at the cell surface or in the cytoplasm results in ligand-independent activation. *Oncogene* 11: 2619-2626.
- Stitt, T.N., et al. 1995. The anticoagulation factor Protein S and its relative, Gas6, are ligands for the Tyro3/Axl family of receptor tyrosine kinases. *Cell* 80: 661-670.
- Heiring, C., et al. 2004. Ligand recognition and homophilic interactions in Tyro3: structural insights into the Axl/Tyro3 receptor tyrosine kinase family. *J. Biol. Chem.* 279: 6952-6958.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## CHROMOSOMAL LOCATION

Genetic locus: TYRO3 (human) mapping to 15q15.1.

## SOURCE

Tyro3 (9A3F2) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 152-310 of Tyro3 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

Tyro3 (9A3F2) is recommended for detection of Tyro3 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Tyro3 siRNA (h): sc-36438, Tyro3 shRNA Plasmid (h): sc-36438-SH and Tyro3 shRNA (h) Lentiviral Particles: sc-36438-V.

Molecular Weight of Tyro3: 120 kDa.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.