Human ROBO3 Alexa Fluor® 405-conjugated Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF3076V
100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects ROBO3 in direct ELISAs and Western blots. In direct ELISAs and Western blots, approximately 60% cross-reactivity with recombinant mouse ROBO3 is observed, 5% cross-reactivity with recombinant human ROBO2 and recombinant rat ROBO1 is observed,
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human ROBO3 Leu40-Ser545 Accession # Q96MS0
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

Western Blot	Optimal dilution of this antibody should be experimentally determined.
Immunohistochemistry	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

Human ROBO3 is a 200 kDa member of the ROBO family of guidance molecules (1-3). The term ROBO derives from round-about, a description of the circuitous pathway axons take in the absence of a functional ROBO gene (3, 4). Human ROBO3 is a type I transmembrane glycoprotein that is synthesized as a 1386 amino acid (aa) precursor. It contains a 20 aa signal sequence, an 871 aa extracellular domain (ECD), a 21 aa transmembrane segment, and a 474 aa cytoplasmic region (5, 6). The ECD contains five C2-type Ig-like domains (aa 64-531) and three fibronectin (FN) type III domains (aa 555-863). The cytoplasmic region contains three of four possible 15-20 aa long CC (conserved cytoplasmic) motifs that are found in ROBO1 (7, 8). Human ROBO3 has multiple isoforms. An alternate start site generates a 1365 aa A isoform and a 1341 aa B isoform. These two mature forms differ only over the first 26 and 2 amino acids of the N-terminus, respectively. There are multiple point mutations and insertions in the ROBO3 gene. Three result in truncated forms. One is 456 aa in length and ends after the Ig-like domain # 4. A second is 770 aa in length and ends in the third FN domain. A third isoform is truncated after aa 1108 in the cytoplasmic region after CC2. At least one alternate splice form is also reported. It shows a 10 aa substitution between aa 1025-1034, followed by truncation. Human ROBO3 ECD is 84% and 91% aa identical to the ECD in mouse and canine ROBO3, respectively. Normally, axons originating on one side of the spinal cord are inhibited from crossing to the other side by a SLIT2-ROBO1 interaction at the midline. ROBO3 is permissive for this event. It is unclear how this is accomplished. One possibility is that it binds directly to ROBO1, blocking SLIT activation. A second possibility involves ROBO3 binding to SLIT2 in a nonproductive interaction. However, only ROBO3 Form B is known to bind to SLIT2 (9-11).

PRODUCT SPECIFIC NOTICES

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