Human Angiopoietin-2 Alexa Fluor® 750-conjugated Antibody

Monoclonal Mouse IgG_{2B} Clone # 180102

Catalog Number: FAB0983S

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Angiopoietin-2 in direct ELISAs and Western blots. In direct ELISAs and Western blots, this antibody does not cross-react with recombinant human (rh) Ang-1, rhAng-4, rhAng-X, or rmANGPTL3.
Source	Monoclonal Mouse IgG_{2B} Clone # 180102
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Angiopoietin-2 Asp68-Phe496 Accession # O15123
Conjugate	Alexa Fluor 750 Excitation Wavelength: 749 nm Emission Wavelength: 775 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.

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

Angiopoietin-2 (Ang-2; also ANGPT2) is a secreted glycoprotein that plays a complex role in angiogenesis and inflammation (1, 2). Mature Ang-2 is 478 amino acids (aa) in length. It contains one coiled-coil domain (aa 166 - 248) that mediates multimerization, and a C-terminal fibrinogen-like domain (aa 275 - 495) that mediates receptor binding. Under reducing conditions, secreted monomeric Ang-2 is 65 - 66 kDa in size. Under nonreducing conditions, both natural and recombinant Ang-2 form 140 kDa dimers, 200 kDa trimers, and 250 - 300 kDa tetramers and pentamers (3 - 6). Alternate splicing generates a short isoform that lacks 52 amino acids preceding the coiled-coil domain (4). Mature human Ang-2 shares 86% aa sequence identity with mouse and rat Ang-2. Ang-2 is widely expressed during development, but it is restricted postnatally to highly angiogenic tissues such as the placenta, ovaries, and uterus (3). It is particularly abundant in vascular endothelial cells (EC) where it is stored in intracellular Weibel-Palade bodies (1, 3, 7). Both Ang-2 and the related Angiopoietin-1 (Ang-1) are ligands for the receptor tyrosine kinase Tie-2 (2). While Ang-1 is a potent Tie-2 agonist, Ang-2 may act as either a Tie-2 antagonist or agonist, depending upon its state of multimerization. The higher the order of oligomer, the more effective Ang-2 becomes as a Tie-2 agonist (3, 8 - 11). The short isoform appears to block the binding of either Ang-1 or full-length Ang-2 to Tie-2 (4). Ang-2 functions as a pro-angiogenic factor, although it can also induce EC death and vessel regression (12, 13). Upon its release from quiescent EC, it regulates vascular remodeling by promoting EC survival, proliferation, and migration and destabilizing the interaction between EC and perivascular cells (8, 13, 14). Ang-2 is required for postnatal vascular remodeling, and it cooperates with Ang-1 during lymphatic vessel development (7, 15). It mediates the upregulation of ICAM-1 and VCAM-1 on EC, which facilitates the adhesion of leukocytes during inflammation (16). Ang-2 is upregulated in both the endothelium and tumor cells of several cancers as well as in ischemic tissue (17 - 20). Its direct interaction with Integrins promotes tumor cell invasion (21, 22). Ang-2 also promotes the neuronal differentiation and migration of subventricular zone progenitor cells (20).

PRODUCT SPECIFIC NOTICES

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