Human βIG-H3 Alexa Fluor® 405-conjugated Antibody

Monoclonal Mouse IgG_1 Clone # 348506

Catalog Number: FAB2935V

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human βIG-H3 in ELISAs and Western blots. In Western blots, this antibody does not cross-react with recombinant mouse βIG-H3.
Source	Monoclonal Mouse IgG_1 Clone # 348506
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human βIG-H3 Gly24-His683 Accession # Q15582
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.*

ELISA Capture (Matched Antibody Pair)	Optimal dilution of this antibody should be experimentally determined.
ELISA Detection (Matched Antibody Pair)	Optimal dilution of this antibody should be experimentally determined.
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

Beta IG-H3, also known as TGFBI and RGD-CAP, is a matricellular adaptor protein that is induced in most cell types in response to TGF-β stimulation (1-4). The human βIG-H3 cDNA encodes a 683 amino acid (aa) precursor that includes a 23 aa signal sequence, one EMI domain, four FAS1 domains, and one RGD motif (1). Human βIG-H3 shares 91% and 93% aa sequence identity with mouse and porcine βIG-H3, respectively. βIG-H3 is expressed as a 75 kDa protein with no post-translational additions (5). Following secretion, cleavages at multiple positions near the C-terminal end liberate peptides with pro-apoptotic activity (5,6). Peptides that encompass the RGD motif contribute to the pro-apoptotic effects of TGF-β (6). FAS1 domains contain YH motifs that are characterized by conserved Tyr and His residues (7). The YH motifs in each of the FAS1 domains enable βIG-H3 binding to matrix Fibronectin, Collagen I, and Collagen VI (3, 8 - 10) in addition to cell expressed Integrins $\alpha_V\beta_3$, $\alpha_V\beta_5$, and $\alpha_3\beta_1$ (7, 8, 11, 12). The expression of βIG-H3 is modulated at particular developmental stages in some cell types. It is upregulated in keratinocytes and immature dendritic cells but downregulated in osteoblasts (8, 11, 13). It promotes keratinocyte differentiation but blocks osteoblast differentiation (8,11). βIG-H3 stimulates macrophage endocytosis and vascular endothelial cell proliferation and migration (12, 13). High glucose levels induce βIG-H3 in renal proximal tubule cells which is predictive of diabetic nephropathy (3). Several point mutations (clustered in the fourth FAS1 domain) of βIG-H3 are linked to different corneal dystrophies (14). βIG-H3 is downregulated in many cancers (4, 15) and functions as a suppressor of tumorigenicity when overexpressed (2, 4, 15).

PRODUCT SPECIFIC NOTICES

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