Human TIM-3 Alexa Fluor® 594-conjugated Antibody

Monoclonal Rat IgG_1 Clone # 344801

Catalog Number: FAB23651T

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects recombinant human TIM-3 in direct ELISAs and Western blots.
Source	Monoclonal Rat IgG_1 Clone # 344801
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human TIM-3 Met1-Arg200 Accession # Q8TDQ0
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 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.*

Agonist Activity	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

TIM-3 (T cell immunoglobulin and mucin domain-3) is a 60 kDa member of the TIM family of immune regulating molecules. TIMs are type I transmembrane glycoproteins with one Ig-like V-type domain and a Ser/Thr-rich mucin stalk (1-3). There are three TIM genes in human and eight in mouse. Mature human TIM-3 consists of a 181 amino acid (aa) extracellular domain (ECD), a 21 aa transmembrane segment, and a 78 aa cytoplasmic tail (4). An alternately spliced isoform is truncated following a short substitution after the Ig-like domain. Within the ECD, human TIM-3 shares 58% aa sequence identity with mouse and rat TIM-3. TIM-3 is expressed on the surface of effector T cells ($CD4^+$ Th1 and $CD8^+$ Tc1) but not on helper T cells ($CD4^+$ Th2 and $CD8^+$ Tc2) (4, 5). NK cells appear to transcribe the highest amounts of Tim-3 among lymphocytes, and when Tim-3 was cross-linked with antibodies it suppressed NK cell-mediated cytotoxicity (6). In chronic inflammation, autoimmune disorders, and some cancers, TIM-3 is upregulated on several other hematopoietic cell types. It also occurs on hippocampal neurons (7-10). The Ig domain of TIM-3 interacts with a ligand on resting but not activated Th1 and Th2 cells (5, 11). The glycosylated Ig domain of TIM-3 binds cell-associated galectin-9. This induces TIM-3 Tyr phosphorylation and pro-apoptotic signaling (8, 12). TIM-3 functions as a negative regulator of Th1 cell activity. Its blockade results in increased IFN-γ production, Th1 cell proliferation and cytotoxicity (5, 10, 11), and regulatory T cell development (5). TIM-3 inhibits the antitumor efficacy of DNA vaccines and chemotherapy by binding to the damage-associated molecular pattern molecule, HMGB1 (13).

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Bio-Techne®
Global | bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL: 1.612.379.2956
USA | TEL: 800.343.7475 Canada | TEL: 855.668.8722 Europe | Middle East | Africa TEL: +44.0.1235.529449
China | info.cn@bio-techne.com TEL: 400.821.3475