Human SIRP beta 2
Alexa Fluor® 488-conjugated Antibody

Monoclonal Mouse IgG_{2B} Clone # 1008702
Catalog Number: FAB99981G
100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human SIRP beta 2 in direct ELISAs.
Source	Monoclonal Mouse IgG_{2B} Clone # 1008702
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	HEK293 human embryonic kidney cell line, HEK293 derived Human SIRP beta 2 Gln33-Gly287 Accession # Q5JXA9
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *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.*

	Recommended Concentration	Sample
Flow Cytometry	0.25-1 µg/10^6 cells	HEK293 Human Cell Line Transfected with Human SIRP beta 2 and eGFP and THP-1 Monocytic Leukemia Cell Line

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

Signal-regulatory protein beta-2(SIRP-beta-2), is a ~37 kDa monomeric single pass type I membrane glycoprotein. It belongs to the SIRP/SHPS (CD172) family of the immunoglobulin (Ig) superfamily (1). The SIRP family are paired receptors that have similar extracellular domains but differing C-terminal domains and functions (1). SIRP-beta-2 contains an N-terminal signal peptide (aa1-32), two extracellular Ig-like domains: a V-type 1 (aa 33-143) and a V-type 2 (aa 157-258) containing three potential N-linked glycosylation sites, a helical transmembrane domain (aa 288-308), and a cytoplasmic domain (aa 309-342) (1). A positively charged residue within the transmembrane domain, in analogy to SIRP-beta-1, is implicated to mediate interaction with the adaptor DAP12 protein, which contains immunoreceptor tyrosine-based activation motifs (ITAMs) (2). Proteins in the SIRP family are typically expressed in immune cells, especially in the myeloid lineages (3). Based on expression patterns, SIRPs are thought to have roles in immune regulation (4). SIRP family members role in innate immunity and host defense has potential significance as a therapeutic target in cancer and inflammation (5, 6). There are currently no known mouse or rat homologs for this protein.

References:

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2. Liu, Y. *et al.* (2005) Journal of Biological Chemistry. **280**:36132.
3. Matozaki, T. *et al.* (2009) Trends in Cell Biology. **19**:72.
4. Barclay A.N. *et al.* (2006) Nat Rev Immunol. **6**:457.
5. Barclay A.N. *et al.* (2014) Annu Rev Immunol. **32**:25.
6. Veillette A. (2018) Trends Immunol. **39**:173.

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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 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449