

DESCRIPTION

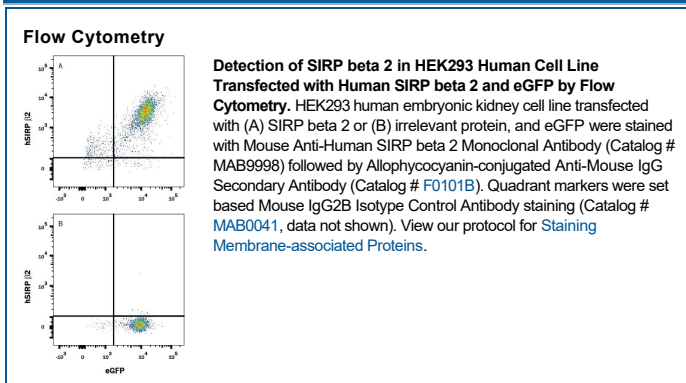
Species Reactivity	Human
Specificity	Detects human SIRP beta 2 in direct ELISAs.
Source	Monoclonal Mouse IgG ₁ Clone # 1008709
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	HEK293 human embryonic kidney cell line, HEK293 derived human SIRP beta 2 Gln33-Gly287 Accession # Q5JXA9
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

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 µg/10 ⁶ cells	See Below
CytoF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA



PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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:

1. van Beek, E.M. *et al.* (2005) *J. Immunol.* **175**:7781.
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.

