

MONOCLONAL ANTIBODY

Anti-ST2 (Human) mAb-PE

Code No.	Clone	Subclass	Quantity
D067-5	2A5	Mouse IgG1	1 mL (50 tests)

BACKGROUND: The *ST2* gene, also known as *T1*, *Fit1*, or *DER4*, was originally identified as a responsive gene that was highly induced by stimulation of various proliferation-inducing agents including serum, PDGF (platelet-derived growth factor), FGF (fibroblast growth factor), or lysophosphatidic acid in murine fibroblasts. Three distinct forms of gene products have been reported and named ST2, ST2V, and ST2L.

ST2 is a soluble secreted form of 37 kDa protein, which lacks intracellular domain, whereas ST2L is a transmembrane form of 62 kDa protein (the glycosylated forms of ST2 and ST2L are about 57 and 80 kDa, respectively). This ST2L protein is very similar to IL-1R (interleukin-1 receptor) type I and II in structure, thus it is considered as a member of the IL-1R family. ST2V, which is another novel variant form of human ST2, has been identified recently.

ST2 proteins are expressed in the wide variety types of human cells, including hematopoietic cells in various stages of differentiation, a population of the peripheral blood mononuclear cells from healthy individuals, glioblastoma and astrocytoma cell lines, and colon cancer cells in addition to fibroblast cell lines. Thus ST2 proteins are considered to have some roles in regulating cell growth or proliferation. On the other hand, either definitive functions of ST2 proteins or their ligand molecule(s) which binds to ST2 proteins have remained unclear, though it has been reported that none of IL-1 α , β , RA (receptor antagonist) binds to ST2 proteins in spite of their structural similarity to IL-1R. This indicates that ST2L protein is functionally independent from IL-1R. Furthermore, several studies have shown that ST2L is expressed on the cell surface of Th2 cells but not on the Th1 cells, indicating the possibility that ST2L protein participates not only in the regulation of cell growth or proliferation, but also in the immune system including differentiation of T cells or immunological response via helper T cells.

From these observations, ST2 proteins are considered to be one of the important proteins participate in various physiological phenomenon, thus further analysis are required to understand its physiological functions.

SOURCE: This antibody was purified from mouse ascites fluid using protein A agarose. This hybridoma (clone 2A5) was established by fusion of mouse myeloma cell PAI with Balb/c mouse splenocyte immunized with secreted form of ST2 protein which was purified from culture supernatant of COS7 transfectant cells.

FORMULATION: 50 tests in 1 mL volume of PBS containing 1% BSA and 0.09% NaN₃.

*Azide may react with copper or lead in plumbing system to form explosive metal azides. Therefore, always flush plenty of water when disposing materials containing azide into drain.

STORAGE: This antibody solution is stable for one year from the date of purchase when stored at 4°C.

REACTIVITY: This antibody reacts with human ST2 on Flow cytometry.

APPLICATION:

Flow cytometry; 20 μ L (ready for use)

*Please refer to the data sheet (MBL code no. D067-3) for other applications.

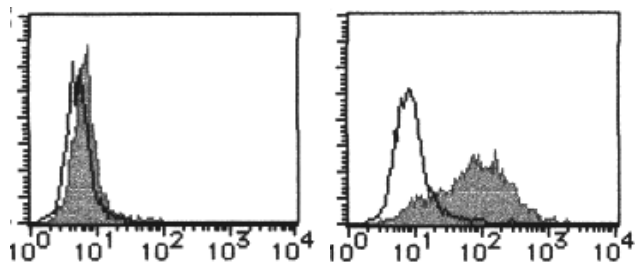
Detailed procedure is provided in the following **PROTOCOL**.

SPECIES CROSS REACTIVITY:

Species	Human	Mouse	Rat
Cell	Transfectant	Not tested	Not tested
Reactivity on FCM	+		

INTENDED USE:

For Research Use Only. Not for use in diagnostic procedures.



Flow cytometric analysis of human ST2 expression on T98G parental cells (left) and HST2L-4-2 ST2L transfectant (right). Open histogram indicates the reaction of isotypic control to the cells. Shaded histograms indicate the reaction of D067-5 to the cells.

REFERENCES:

- 1) Zeyda, M., *et al.*, *Int. J. Obes (Lond)*. **37**, 658-665 (2013)
- 2) Allakhverdi, Z., *et al.*, *J. Immunol*. **179**, 2051-2054 (2007) [FCM]
- 3) Shimizu, M., *et al.*, *Hum. Mol. Genet*. **14**, 2919-2927 (2005)
- 4) Tajima, S., *et al.*, *Chest* **124**, 1206-1214 (2003)
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- 6) Oshikawa, K., *et al.*, *Am. J. Respir. Crit. Care Med*. **164**, 277-281 (2001)
- 7) Kuroiwa, K., *et al.*, *Hybridoma* **19**, 151-159 (2000)
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- 9) Löhning, M., *et al.*, *PNAS* **95**, 6930-6935 (1998)
- 10) Yanagisawa, K., *et al.*, *J. Biochem*. **121**, 95-103 (1997)
- 11) Yanagisawa, K., *et al.*, *FEBS Lett*. **318**, 83-87 (1993)
- 12) Lanahan, A., *et al.*, *Mol. Cell. Biol*. **12**, 3919-3929 (1992)
- 13) Tominaga, S., *et al.*, *FEBS Lett*. **258**, 301-304 (1989)

Clone 2A5 is used in reference number 1) - 7).

RELATED PRODUCTS:

- D065-3 Anti-ST2 (Human) mAb (HB12)
- D066-3 Anti-ST2 (Human) mAb (FB9)
- D067-3 Anti-ST2 (Human) mAb (2A5)
- D067-4 Anti-ST2 (Human) mAb-FITC (2A5)
- D067-5 Anti-ST2 (Human) mAb-PE (2A5)
- 7638 ST2 ELISA Kit

PROTOCOL:

Flow cytometric analysis for floating cells

We usually use Fisher tubes or equivalents as reaction tubes for all step described below.

- 1) Wash the cells 3 times with washing buffer [PBS containing 2% fetal calf serum (FCS) and 0.1% NaN₃].
- 2) Resuspend the cells with washing buffer (5x10⁶ cells/mL).
- 3) Add 50 µL of the cell suspension into each tube, and centrifuge at 500 x g for 1 minute at room temperature (20~25°C). Remove supernatant by careful aspiration.
- 4) Add 20 µL of normal goat serum containing 1 mg/mL normal human IgG and 0.1% NaN₃ or 20 µL of Clear Back (human Fc receptor blocking reagent, MBL; code no. MTG-001) to the cell pellet after tapping. Mix well and incubate for 5 minutes at room temperature.
- 5) Add 20 µL of the primary antibody (ready for use). Mix well and incubate for 30 minutes at room temperature.
- 6) Add 1 mL of the washing buffer followed by centrifugation at 500 x g for 1 minute at room temperature. Remove supernatant by careful aspiration.
- 7) Resuspend the cells with 500 µL of the washing buffer and analyze by a flow cytometer.

(Positive control for Flow cytometry; Transfectant)