

# CD137L (TKS-1): sc-53547

## BACKGROUND

CD137, also designated ILA and 4-1BB in mouse, belongs to the tumor necrosis factor receptor family and delivers a costimulatory signal to T lymphocytes. CD137 is expressed on activated T cells and binds an inducible ligand that is found on B cells, macrophages and dendritic cells. Interactions between CD137 and its ligand are involved in antigen presentation and the generation of cytotoxic T cells. Crosslinking of the CD137 ligand induces apoptosis in resting lymphocytes. In contrast, CD137 regulates peripheral monocyte survival by inducing a cytokine release profile, and is mediated by M-CSF and to a lesser extent by granulocyte-macrophage colony-stimulating factor and IL-3. Soluble forms of CD137 are found in sera from patients with rheumatoid arthritis and may provide a negative control mechanism for immune responses.

## REFERENCES

- Chalupny, N.J., Peach, R., Hollenbaugh, D., Ledbetter, J.A., Farr, A.G. and Aruffo, A. 1992. T cell activation molecule 4-1BB binds to extracellular matrix proteins. *Proc. Natl. Acad. Sci. USA* 89: 10360-10364.
- Pollok, K.E., Kim, Y.J., Zhou, Z., Hurtado, J., Kim, K.K., Pickard, R.T. and Kwon, B.S. 1993. Inducible T cell antigen 4-1BB. Analysis of expression and function. *J. Immunol.* 150: 771-781.
- Kim, Y.J., Pollok, K.E., Zhou, Z., Shaw, A., Bohlen, J.B., Fraser, M. and Kwon, B.S. 1993. Novel T cell antigen 4-1BB associates with the protein tyrosine kinase p56lck1. *J. Immunol.* 151: 1255-1262.
- DeBenedette, M.A., Chu, N.R., Pollok, K.E., Hurtado, J., Wade, W.F., Kwon, B.S. and Watts, T.H. 1995. Role of 4-1BB ligand in costimulation of T lymphocyte growth and its upregulation on M12 B lymphomas by cAMP. *J. Exp. Med.* 181: 985-992.
- Hurtado, J.C., Kim, S.H., Pollok, K.E., Lee, Z.H. and Kwon, B.S. 1995. Potential role of 4-1BB in T cell activation. Comparison with the costimulatory molecule CD28. *J. Immunol.* 155: 3360-3367.
- Pollok, K.E., Kim, S.H. and Kwon, B.S. 1995. Regulation of 4-1BB expression by cell-cell interactions and the cytokines, interleukin-2 and interleukin-4. *Eur. J. Immunol.* 25: 488-494.
- Zhou, Z., Pollok, K.E., Kim, K.K., Kim, Y.J. and Kwon, B.S. 1995. Functional analysis of T cell antigen 4-1BB in activated intestinal intra-epithelial T lymphocytes. *Immunol. Lett.* 41: 177-184.
- DeBenedette, M.A., Shahinian, A., Mak, T.W. and Watts, T.H. 1997. Costimulation of CD28<sup>+</sup> T lymphocytes by 4-1BB ligand. *J. Immunol.* 158: 551-559.
- Hurtado, J.C., Kim, Y.J. and Kwon, B.S. 1997. Signals through 4-1BB are costimulatory to previously activated splenic T cells and inhibit activation-induced cell death. *J. Immunol.* 158: 2600-2609.

## CHROMOSOMAL LOCATION

Genetic locus: *Tnfsf9* (mouse) mapping to 17 D.

## SOURCE

CD137L (TKS-1) is a rat monoclonal antibody raised against BALB/c mouse B lymphoma line 2PK-3.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available azide-free for blocking of CD137 ligand in functional studies, sc-53547 L, 200 µg/0.1 ml.

CD137L (TKS-1) is available conjugated to either phycoerythrin (sc-53547 PE) or fluorescein (sc-53547 FITC), 200 µg/ml, for IF, IHC(P) and FCM.

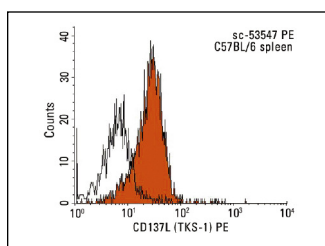
## APPLICATIONS

CD137L (TKS-1) is recommended for detection of CD137L of mouse origin by flow cytometry (1 µg per 1 x 10<sup>6</sup> cells).

Suitable for use as control antibody for CD137L siRNA (m): sc-42828, CD137L shRNA Plasmid (m): sc-42828-SH and CD137L shRNA (m) Lentiviral Particles: sc-42828-V.

Molecular Weight of CD137L: 60 kDa.

## DATA



CD137L (TKS-1): sc-53547. Indirect FCM analysis of C57BL/6 splenocytes stained with CD137L (TKS-1), followed by PE-conjugated goat anti-rat IgG: sc-3740. Black line histogram represents the isotype control, normal rat IgG<sub>2a</sub>: sc-3883.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.