

# T Cell Marker (15-6A1): sc-52711

## BACKGROUND

T cells, along with B cells and NK cells, belong to the group of white blood cells known as lymphocytes. They play a central role in cell-mediated immunity and are distinguished by their T cell receptor (TCR), a special receptor on their cell surface. T cells originate in the bone marrow, mature in the thymus and travel in the blood to other lymphoid tissues, such as the tonsils, spleen and lymph nodes. CD2, CD3, CD5 and CD7 are pan T cell markers as they are present on most normal mature T cells. Of the pan T cell markers, CD2 and CD3 are the most specific for T cells. CD5 is strongly associated with T cells but is also expressed on a small subset of normal B lymphocytes and in B-chronic lymphocytic leukemia. CD7 may occasionally be present on early myeloid cells, especially in leukemia. In acute infectious mononucleosis, there is downregulation of the pan T cell markers, namely CD7, and in Sezary syndrome, a T cell cutaneous lymphoma, the T cells express CD4 but do not usually express CD7.

## REFERENCES

1. Grunow, R., et al. 1987. Masking of pan T cell markers in patients with autoimmune diseases. *Dermatol. Monatsschr.* 173: 390-399.
2. Moingeon, P., et al. 1989. The structural biology of CD2. *Immunol. Rev.* 111: 111-144.
3. Egeland, T., et al. 1991. Myeloid differentiation human granulocyte-mono-cyte colony-stimulating factor (CSF), granulocyte-CSF, monocyte-CSF and interleukin-3. *Blood* 78: 3192-3199.
4. Chetty, R., et al. 1994. CD3: structure, function and role of immunostaining in clinical practice. *J. Pathol.* 173: 303-307.
5. Youinou, P., et al. 1999. CD5 expression in human B cell populations. *Immunol. Today* 20: 312-316.
6. Sempowski, G.D., et al. 1999. Structure and function of the CD7 molecule. *Crit. Rev. Immunol.* 19: 331-348.
7. Weisberger, J., et al. 2003. Downregulation of pan T cell antigens, particularly CD7, in acute infectious mononucleosis. *Am. J. Clin. Pathol.* 120: 49-55.

## SOURCE

T Cell Marker (15-6A1) is a mouse monoclonal antibody raised against WAG/Rij spleen cells of rat origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## PROTOCOLS

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

## APPLICATIONS

T Cell Marker (15-6A1) is recommended for detection of T cells of mouse and rat origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10<sup>6</sup> cells).

## SELECT PRODUCT CITATIONS

1. Sáenz-Morales, D., et al. 2010. Differential resolution of inflammation and recovery after renal ischemia-reperfusion injury in Brown Norway compared with Sprague Dawley rats. *Kidney Int.* 77: 781-793.
2. Leng, X., et al. 2010. Anti-heat shock protein 70 autoantibody epitope changes and BD091 promotes atherosclerosis in rats. *Cell Stress Chaperones* 15: 947-958.
3. Johnson, E.A., et al. 2015. Interleukin-18 expression increases in response to neurovascular damage following soman-induced status epilepticus in rats. *J. Inflamm.* 12: 43.
4. Niquet, J., et al. 2015. Neuroprotective effects of deep hypothermia in refractory status epilepticus. *Ann. Clin. Transl. Neurol.* 2: 1105-1115.
5. Conde, E., et al. 2017. HIF-1α induction during reperfusion avoids mal-adaptive repair after renal ischemia/reperfusion involving miR127-3p. *Sci. Rep.* 7: 41099.

## RESEARCH USE

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