

# CD8 (5F10): sc-70794



The Power to Question

## BACKGROUND

The T cell receptor (TCR) is a heterodimer composed of either  $\alpha$  and  $\beta$  or  $\gamma$  and  $\delta$  chains. CD3 chains and the CD4 or CD8 co-receptors are also required for efficient signal transduction through the TCR. The TCR is expressed on T helper and T cytotoxic cells that can be distinguished by their expression of CD4 and CD8; T helper cells express CD4 proteins and T cytotoxic cells display CD8. CD8 (also designated Leu 2 or T8), a cell surface glycoprotein, is a two chain complex ( $\alpha\alpha$  or  $\alpha\beta$ ) receptor that binds class I MHC molecules presented by the antigen-presenting cell (APC). A primary function of CD8 is to facilitate antigen recognition by the TCR and to strengthen the avidity of the TCR-antigen interactions. An additional role for CD8-expressing T cells may be to maintain low levels of HIV expression.

## REFERENCES

1. Nakayama, K., Tokito, S., Okumura, K. and Nakauchi, H. 1989. Structure and expression of the gene encoding CD8  $\alpha$  chain (Leu-2/T8). *Immunogenetics* 30: 393-397.
2. Allison, J.P. and Havran, W.L. 1991. The immunobiology of T cells with invariant  $\gamma$   $\delta$  antigen regions. *Annu. Rev. Immunol.* 9: 679-705.
3. Zuniga-Pflucker, J.C., Jones, L.A., Chin, L.T. and Kruisbeek, A.M. 1991. CD4 and CD8 act as co-receptors during thymic selection of the T cell repertoire. *Semin. Immunol.* 3: 167-175.
4. Fleury, S.G., Croteau, G. and Sekaly, R.P. 1991. CD4 and CD8 recognition of class II and class I molecules of the major histocompatibility complex. *Semin. Immunol.* 3: 177-185.
5. Janeway, C.A., Jr. 1992. The T cell receptor as a multicomponent signalling machine: CD4/CD8 coreceptors and CD45 in T cell activation. *Annu. Rev. Immunol.* 10: 645-674.
6. Julius, M., Maroun, C.R. and Haughn, L. 1993. Distinct roles for CD4 and CD8 as co-receptors in antigen receptor signalling. *Immunol. Today* 14: 177-183.
7. Buseyne, F. and Riviere, Y. 1993. HIV-specific CD8<sup>+</sup> T-cell immune responses and viral replication. *AIDS* 7: S81-S85.
8. Ehrlich, E.W., Devaux, B., Rock, E.P., Jorgenson, J.L., Davis, M.N. and Chien, Y.H. 1993. T cell receptor interaction with peptide/major histocompatibility complex (MHC) and superantigen MHC ligands is dominated by antigen. *J. Exp. Med.* 178: 713-722.
9. Hogg, N., Stewart, M.P., Scarth, S.L., Newton, R., Shaw, J.M., Law, S.K. and Klein, N. 1999. A novel leukocyte adhesion deficiency caused by expressed but nonfunctional  $\beta$ 2 Integrins Mac-1 and LFA-1. *J. Clin. Invest.* 103: 97-106.

## CHROMOSOMAL LOCATION

Genetic locus: CD8A/CD8B (human) mapping to 2p11.2.

## SOURCE

CD8 (5F10) is a mouse monoclonal antibody raised against CD8 of human origin.

## PRODUCT

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

CD8 (5F10) is available conjugated either phycoerythrin (sc-70794 PE, 100 tests in 2 ml) or fluorescein (sc-70794 FITC, 100 tests in 2 ml), for WB (RGB), IF, IHC(P) and FCM.

## APPLICATIONS

CD8 (5F10) is recommended for detection of CD8 of human 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  $\mu$ g per 1 x 10<sup>6</sup> cells).

Molecular Weight of CD8  $\beta$ : 32 kDa.

Molecular Weight of CD8  $\alpha$ : 39 kDa.

## SELECT PRODUCT CITATIONS

1. Sugino, K., Akira, H., Toshimasa, U., Kazuhito H., Hiroshi, A. and Sakae H. 2013. Bronchiolitis obliterans associated with Stevens-Johnson syndrome: histopathological bronchial reconstruction of the whole lung and immunohistochemical study. *Diagn. Pathol.* 8: 134.
2. Bekircan-Kurt, C.E., Tan, E. and Erdem-Özdamar, S. 2015. The activation of RAGE and NF $\kappa$ B in nerve biopsies of patients with axonal and vasculitic neuropathy. *Noro Psikiyat. Ars.* 52: 279-282.
3. Trikamji, B. and Pestronk, A. 2020. Treatable, motor-sensory, axonal neuropathies with C5b-9 complement on endoneurial microvessels. *Muscle Nerve* 63: 506-515.
4. Lin, Y., Pan, X., Zhao, L., Yang, C., Zhang, Z., Wang, B., Gao, Z., Jiang, K., Ye, Y., Wang, S. and Shen, Z. 2021. Immune cell infiltration signatures identified molecular subtypes and underlying mechanisms in gastric cancer. *NPJ Genom. Med.* 6: 83.

## 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.