

# CD8 (5H10-1): sc-53675

## 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. Sem. 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. Sem. 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 Suppl. 2: 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. Luescher, I.F., Vivier, E., Layer, A., Mahiou, J., Godeau, F., Malissen, B. and Romero, P. 1995. CD8 modulation of T cell antigen receptor-ligand interactions on living cytotoxic T lymphocytes. Nature 373: 353-356.

## CHROMOSOMAL LOCATION

Genetic locus: Cd8a/Cd8b1 (mouse) mapping to 6 C1.

## SOURCE

CD8 (5H10-1) is a rat monoclonal antibody raised against concanavalin A-stimulated BALB/c splenic T cells of mouse origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>2b</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

CD8 (5H10-1) is recommended for detection of CD8 of mouse origin by immunofluorescence (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- $\alpha$ : 39 kDa.

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

## 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.



See **CD8 (32-M4): sc-1177** for CD8 antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647.