# CD8 (12.C7): sc-59117



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**

- Nakayama, K., Tokito, S., Okumura, K. and Nakauchi, H. 1989. Structure and expression of the gene encoding CD8-α chain (Leu 2/T8). Immunogenetics 30: 393-397.
- 2. Allison, J.P. and Havran, W.L. 1991. The immunobiology of T cells with invariant γ δ antigen regions. Annu. Rev. Immunol. 9: 679-705.
- 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.
- 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.
- 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.
- 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+T cell immune responses and viral replication. AIDS Suppl. 2: S81-S85.
- Ehrich, 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.

# **SOURCE**

CD8 (12.C7) is a mouse monoclonal antibody raised against peripheral blood lymphocytes of rabbit origin.

# **PRODUCT**

Each vial contains 100  $\mu g \ lgG_1$  in 1.0 ml of PBS with < 0.1% sodium azide, 0.1% gelatin and < 1% stabilizer protein.

#### **APPLICATIONS**

CD8 (12.C7) is recommended for detection of CD8 of rabbit 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-α: 39 kDa

Molecular Weight of CD8-β: 32 kDa.

## **SELECT PRODUCT CITATIONS**

 Guan, L., Ge, H., Tang, X., Su, S., Tian, P., Xiao, N., Zhang, H., Zhang, L. and Liu, P. 2013. Use of a silk fibroin-chitosan scaffold to construct a tissue-engineered corneal stroma. Cells Tissues Organs 198: 190-197.

## **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 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.

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