

# CD8- $\beta$ (H35-17.2): sc-20041

## 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., et al. 1989. Structure and expression of the gene encoding CD8- $\alpha$  chain (Leu-2/T8). *Immunogenetics* 30: 393-397.
2. Zuniga-Pflucker, J.C., et al. 1991. CD4 and CD8 act as co-receptors during thymic selection of the T cell repertoire. *Semin. Immunol.* 3: 167-175.
3. Fleury, S.G., et al. 1991. CD4 and CD8 recognition of class II and class I molecules of the major histocompatibility complex. *Semin. Immunol.* 3: 177-185.
4. Allison, J.P., et al. 1991. The immunobiology of T cells with invariant  $\gamma$   $\delta$  antigen regions. *Annu. Rev. Immunol.* 9: 679-705.
5. Janeway, C.A., Jr. 1992. The T cell receptor as a multicomponent signalling machine: CD4/CD8 co-receptors and CD45 in T cell activation. *Annu. Rev. Immunol.* 10: 645-674.
6. Julius, M., et al. 1993. Distinct roles for CD4 and CD8 as co-receptors in antigen receptor signalling. *Immunol. Today* 14: 177-183.
7. Ehrlich, E.W., et al. 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

CD8- $\beta$  (H35-17.2) is a rat monoclonal antibody raised against a 5-day mixed leukocyte culture population, C57BL/6 anti-BALB/c.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD8- $\beta$  (H35-17.2) is available conjugated to either phycoerythrin (sc-20041 PE), fluorescein (sc-20041 FITC) or Alexa Fluor® 488 (sc-20041 AF488) or Alexa Fluor® 647 (sc-20041 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM.

## RESEARCH USE

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

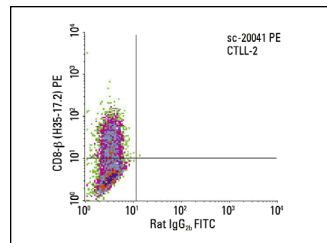
## APPLICATIONS

CD8- $\beta$  (H35-17.2) is recommended for detection of CD8- $\beta$  chain of mouse origin by immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], 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).

Suitable for use as control antibody for CD8- $\beta$  siRNA (m): sc-42757, CD8- $\beta$  shRNA Plasmid (m): sc-42757-SH and CD8- $\beta$  shRNA (m) Lentiviral Particles: sc-42757-V.

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

## DATA



CD8- $\beta$  (H35-17.2) PE: sc-20041 PE. FCM analysis of CTL2-2 cells. Quadrant markers were set based on the isotype control, normal rat IgG<sub>2b</sub>-PE: sc-2873.

## SELECT PRODUCT CITATIONS

1. Xu, J., et al. 2006. Increased bleomycin-induced lung injury in mice deficient in the transcription factor T bet. *Am. J. Physiol. Lung Cell. Mol. Physiol.* 291: 658-667.
2. Herbert, C., et al. 2008. Suppression of cytokine expression by roflumilast and dexamethasone in a model of chronic asthma. *Clin. Exp. Allergy* 38: 847-856.
3. Kim, S., et al. 2009. Vaccination with recombinant adenoviruses and dendritic cells expressing prostate-specific antigens is effective in eliciting CTL and suppresses tumor growth in the experimental prostate cancer. *Prostate* 69: 938-948.
4. Panicker, S., et al. 2009. Oral glucosamine modulates the response of the liver and lymphocytes of the mesenteric lymph nodes in a papain-induced model of joint damage and repair. *Osteoarthritis Cartilage* 17: 1014-1021.
5. Esposito, E., et al. 2011. MK801 attenuates secondary injury in a mouse experimental compression model of spinal cord trauma. *BMC Neurosci.* 12: 31.

## STORAGE

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

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