

CD8- β (R-20): sc-1145

BACKGROUND

The T cell receptor (TCR) is a heterodimer composed of either α and β or γ and δ 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, is a 32 kDa cell surface glycoprotein. It is a two chain complex (α - α or α - β) 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- α chain (Leu-2/T8). *Immunogenetics* 30: 393-397.
2. Allison, J.P., et al. 1991. The immunobiology of T cells with invariant γ δ antigen regions. *Ann. Rev. Immunol.* 9: 679-705.
3. Zuniga-Pflucker, J.C., et al. 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., et al. 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 co-receptors and CD45 in T cell activation. *Ann. 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.
8. Buseyne, F., et al. 1993. HIV-specific CD8⁺ T cell immune responses and viral replication. *AIDS 2 Suppl.*: S81-S85.
9. Luescher, I.F., et al. 1995. CD8 modulation of T cell antigen receptor-ligand interactions on living cytotoxic T lymphocytes. *Nature* 373: 353-356.

CHROMOSOMAL LOCATION

Genetic locus: CD8B1 (human) mapping to 2p12; Cd8b1 (mouse) mapping to 6 C1.

SOURCE

CD8- β (R-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of CD8- β of rat origin.

STORAGE

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

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1145 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CD8- β (R-20) is recommended for detection of CD8- β chain of rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of CD8- β : 32 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Penkowa, M., et al. 2000. Metallothionein I+II expression and their role in experimental autoimmune encephalomyelitis. *Glia* 32: 247-263.
2. Giral, M., et al. 2002. Metallothionein-1+2 protect the CNS after a focal brain injury. *Exp. Neurol.* 173: 114-128.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.