PRODUCT INFORMATION

CD8 Monoclonal Antibody (Clone RIV11)

Item No. 10004715

Overview and Properties

Contents:	This vial contains 100 µg of protein A-purified monoclonal antibody.
Species Reactivity:	(+) Human; other species not tested
Form:	Solid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS, pH 7.2, when resuspended in 100 µl of double distilled water
Clone:	RIV11
Host:	Mouse
Isotype:	IgG1
Applications:	Flow cytometry (FC), immunocytochemistry (ICC), and immunohistochemistry (IHC); the recommended starting concentration for FC is 1 µg/50 ml human whole blood and 2-10 µg/ml for ICC and IHC. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Description

CD8 is a type I transmembrane glycoprotein that functions as a T cell receptor (TCR) co-receptor.[1] It exists as an αα homodimer or αβ heterodimer and is composed of an extracellular IgV-like domain that interacts with MHC class I molecules and a cytoplasmic tail that associates with the tyrosine kinase $p56^{lck}$ and mediates signal transduction to the TCR. It is expressed on the surface of, and used as a marker for, cytotoxic T lymphocytes (CTLs). CD8 is also expressed on natural killer (NK) and dendritic cells and its expression is used to characterize the development stage of thymocytes. CD8 promotes CTL-mediated killing of virally infected cells or cancer cells by binding to antigen-displaying MHC class I molecules and enhancing TCR-mediated intracellular signaling pathways.[2] Neutralization of circulating $CD8^+$ cells with monoclonal antibodies reduces hepatic virus elimination and decreases splenic CTL activity in a mouse model of lymphocytic choriomeningitis virus (LCMV) infection.[3] Adoptive transfer of antigen-experienced $CD8^+$ T cells, in combination with IL-2, reduces tumor growth and increases survival in a B16/F10 murine melanoma model.[4] The number of circulating $CD8^+$ T cells is increased in individuals with HIV-1 infection and is associated with stroke, ischemic heart disease, and non-AIDS-related complications.[5] Cayman's CD8 Monoclonal Antibody (Clone RIV11) can be used for flow cytometry (FC), immunocytochemistry (ICC), and immunohistochemistry (IHC) applications.

References

1. Laugel, B., Cole, D.K., Clement, M., *et al.* The multiple roles of the CD8 coreceptor in T cell biology: Opportunities for the selective modulation of self-reactive cytotoxic T cells. *J. Leukoc. Biol.* **90(6)**, 1089-1099 (2011).
2. Cole, D.K., Laugel, B., Clement, M., *et al.* The molecular determinants of CD8 co-receptor function. *Immunology* **137(2)**, 139-148 (2012).
3. Moskophidis, D., Cobbold, S.P., Waldmann, H., *et al.* Mechanism of recovery from acute virus infection: Treatment of lymphocytic choriomeningitis virus-infected mice with monoclonal antibodies reveals that $Lyt\text{-}2^+$ T lymphocytes mediate clearance of virus and regulate the antiviral antibody response. *J. Virol.* **61(6)**, 1867-1874 (1987).
4. Saito, H., Okita, K., Chang, A.E., *et al.* Adoptive transfer of $CD8^+$ T cells generated from induced pluripotent stem cells triggers regressions of large tumors along with immunological memory. *Cancer Res.* **76(12)**, 3473-3483 (2016).
5. Mudd, J.C. and Lederman, M.M. CD8 T cell persistence in treated HIV infection. *Curr. Opin. HIV AIDS* **9(5)**, 500-505 (2014).

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