

# PRODUCT INFORMATION



## CD8 Monoclonal Antibody (Clone RIV11)

Item No. 10004715

### Overview and Properties

<b>Contents:</b>	This vial contains 100 µg of protein A-purified IgG <sub>1</sub> .
<b>Species Reactivity:</b>	(+) Human; other species not tested
<b>Form:</b>	Solid
<b>Storage:</b>	4°C (as supplied)
<b>Stability:</b>	≥1 year
<b>Storage Buffer:</b>	PBS, pH 7.2, when resuspended in 100 µl of double distilled water
<b>Clone:</b>	RIV11
<b>Host:</b>	Mouse
<b>Applications:</b>	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.<sup>1</sup> 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<sup>lck</sup> 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.<sup>2</sup> Neutralization of circulating CD8<sup>+</sup> cells with monoclonal antibodies reduces hepatic virus elimination and decreases splenic CTL activity in a mouse model of lymphocytic choriomeningitis virus (LCMV) infection.<sup>3</sup> Adoptive transfer of antigen-experienced CD8<sup>+</sup> T cells, in combination with IL-2, reduces tumor growth and increases survival in a B16/F10 murine melanoma model.<sup>4</sup> The number of circulating CD8<sup>+</sup> T cells is increased in individuals with HIV-1 infection and is associated with stroke, ischemic heart disease, and non-AIDS-related complications.<sup>5</sup> 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-2<sup>+</sup> 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<sup>+</sup> 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).

WARNING  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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