

PRODUCT INFORMATION



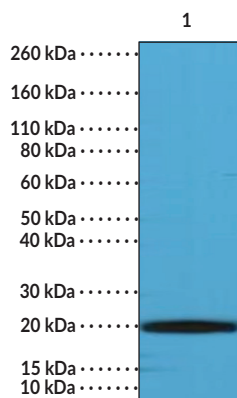
CD3ε (C-Term) Rabbit Monoclonal Antibody

Item No. 32277

Overview and Properties

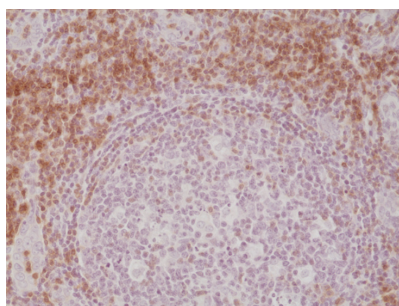
Contents:	This vial contains 100 of μl protein A-affinity purified monoclonal antibody.
Synonyms:	CD3E, Cluster of Differentiation 3E
Immunogen:	Peptide from the C-terminal region of human CD3ε
Cross Reactivity:	(+) CD3ε cytoplasmic domain
Species Reactivity:	(+) Human
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
Clone:	RM344
Host:	Rabbit
Isotype:	IgG
Applications:	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution is 1:100-1:200 for IHC and 1:1,000-1:2,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



Lane 1: Jurkat cell lysate

WB of Jurkat cell lysate using CD3ε (C-Term) Rabbit Monoclonal Antibody at a dilution of 1:1,000.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human tonsil tissue using CD3ε (C-Term) Rabbit Monoclonal Antibody at a 1:200 dilution.

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.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

CD3 is a co-receptor for the T cell receptor (TCR), a cell surface receptor that recognizes antigens presented by MHC molecules and has a key role in the adaptive immune response.^{1,2} CD3 exists as a dimer composed of γ , δ , ϵ , or ζ subunits, which are type I transmembrane proteins encoded by distinct genes that enable TCR signal transduction.^{1,3} CD3 ϵ is composed of an extracellular immunoglobulin (Ig) domain that mediates protein-protein interactions, a short membrane-proximal connecting peptide that is critical for TCR signaling, a transmembrane segment, and an intracellular immunoreceptor tyrosine-based activation motif (ITAM) that is phosphorylated by the tyrosine kinase Lck, resulting in T cell activation, proliferation, and survival.^{1,2,4} CD3 ϵ forms heterodimers with CD3 γ or CD3 δ that interact with CD3 $\zeta\zeta$ homodimers to generate CD3 hexamers that noncovalently bind the TCR to form the CD3-TCR complex. Formulations containing murine anti-CD3 ϵ IgG2a monoclonal antibodies have been used in the treatment of acute allograft rejection. Cayman's CD3 ϵ (C-Term) Rabbit Monoclonal Antibody can be used for immunohistochemistry (IHC) and Western blot (WB) applications. The antibody recognizes the cytoplasmic domain of CD3 ϵ from human samples.

References

1. Dong, D., Zheng, L., Lin, J., *et al.* Structural basis of assembly of the human T cell receptor-CD3 complex. *Nature* **573**(7775), 546-552 (2019).
2. Birnbaum, M.E., Berry, R., Hsiao, Y.-S., *et al.* Molecular architecture of the $\alpha\beta$ T cell receptor-CD3 complex. *Proc. Natl. Acad. Sci. USA* **111**(49), 17576-17581 (2014).
3. San José, E., Sahuquillo, A.G., Bragado, R., *et al.* Assembly of the TCR/CD3 complex: CD3 ϵ/δ and CD3 ϵ/γ dimers associate indistinctly with both TCR α and TCR β chains. Evidence for a double TCR heterodimer model. *Eur. J. Immunol.* **28**(1), 12-21 (1998).
4. Li, L., Guo, X., Shi, X., *et al.* Ionic CD3-Lck interaction regulates the initiation of T-cell receptor signaling. *Proc. Natl. Acad. Sci. USA* **114**(29), E5891-E5899 (2017).

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