

## Brilliant Violet 421™ anti-mouse CD3ε Antibody

<b>Catalog# / Size</b>	100335 / 125 µL 100341 / 50 µg 100336 / 500 µL
<b>Clone</b>	145-2C11
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	CD3ε, T3, CD3
<b>Isotype</b>	Armenian Hamster IgG
<b>Description</b>	CD3ε is a 20 kD transmembrane protein, also known as CD3 or T3. It is a member of the Ig superfamily and primarily expressed on T cells, NK-T cells, and at different levels on thymocytes during T cell differentiation. CD3ε forms a TCR complex by associating with the CD3δ, γ and ζ chains, as well as the TCR α/β or γ/δ chains. CD3 plays a critical role in TCR signal transduction, T cell activation, and antigen recognition by binding the peptide/MHC antigen complex.

### Product Details

<b>Verified Reactivity</b>	Mouse
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Armenian Hamster
<b>Immunogen</b>	H-2K <sup>b</sup> -specific mouse cytotoxic T lymphocyte clone BM10-37
<b>Formulation</b>	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA).
<b>Preparation</b>	The immunoglobulin was purified by affinity chromatography and conjugated with Brilliant Violet 421™ under optimal conditions.
<b>Concentration</b>	µg sizes: 0.2 mg/mL µL sizes: lot-specific (to obtain lot-specific concentration, please enter the lot number in our <a href="#">Concentration and Expiration Lookup</a> or <a href="#">Certificate of Analysis</a> online tools.)
<b>Storage &amp; Handling</b>	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. <b>Do not freeze.</b>
<b>Application</b>	<a href="#">FC - Quality tested</a> <a href="#">ICC - Verified</a>
<b>Recommended Usage</b>	Each lot of this antibody is quality control tested by <a href="#">immunofluorescent staining with flow cytometric analysis</a> . For immunofluorescent staining using the µg size, the suggested use of this reagent is ≤0.25 µg per million cells in 100 µl volume. For immunocytochemistry using the µl sizes, the suggested use of this reagent is 5 µl per million cells in 100 µl staining volume or 5 µl per 100 µl of whole blood. It is recommended that the reagent be titrated for optimal performance for each application.  Brilliant Violet 421™ excites at 405 nm and emits at 421 nm. The standard bandpass filter 450/50 nm is recommended for detection. Brilliant Violet 421™ is a trademark of Sirigen Group Ltd.  <a href="#">Learn more about Brilliant Violet™.</a>  This product is subject to proprietary rights of Sirigen Inc. and is made and sold under license from Sirigen Inc. The purchase of this product conveys to the buyer a non-transferable right to use the purchased product for research purposes only. This product may not be resold or incorporated in any manner into another product for resale. Any use for therapeutics or diagnostics is strictly prohibited. This product is covered by U.S. Patent(s), pending patent applications and foreign equivalents.
<b>Excitation Laser</b>	Violet Laser (405 nm)
<b>Application Notes</b>	Clone 145-2C11 is useful for <i>in vitro</i> blocking of target-specific CTL-mediated cell lysis <sup>1</sup> , as well as

T cell activation assays, inducing proliferation and cytokine production<sup>1,2,7,12,16</sup>. It also induces apoptosis in immature thymocytes<sup>32</sup>, and *in vivo* T cell depletion<sup>8-10</sup>. Additional reported applications (for relevant formats of this clone) include: immunoprecipitation<sup>1</sup>, immunohistochemical staining<sup>14,15</sup> of acetone-fixed frozen sections and zinc-fixed paraffin-embedded sections, Western blotting<sup>4</sup>, complement-mediated cytotoxicity<sup>6</sup>, *in vitro* and *in vivo* stimulation of T cells<sup>1,2,7,12,16</sup>, immunofluorescent staining<sup>5</sup>, and *in vivo* T cell depletion<sup>8-10</sup>. The 145-2C11 antibody has been reported to block the binding of 17A2 antibody to CD3 epsilon-specific T cells<sup>11</sup>. Clone 145-2C11 is not recommended for formalin-fixed paraffin embedded sections. The LEAF™ purified antibody (Endotoxin <0.1 EU/μg, Azide-Free, 0.2 μm filtered) is recommended for functional assays (Cat. No. 100314). For *in vivo* studies or highly sensitive assays, we recommend Ultra-LEAF™ purified antibody (Cat. No. 100340) with a lower endotoxin limit than standard LEAF™ purified antibodies (Endotoxin <0.01 EU/μg).

## Application References

(PubMed link indicates BioLegend citation)

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**RRID** AB\_10898314 (BioLegend Cat. No. 100335)  
 AB\_2562556 (BioLegend Cat. No. 100341)  
 AB\_11203705 (BioLegend Cat. No. 100336)

## Antigen Details

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<b>Structure</b>	Ig superfamily, forms CD3/TCR complex with CD3 $\delta$ , $\gamma$ and $\zeta$ subunits and TCR ( $\alpha/\beta$ and $\gamma/\delta$ ), 20 kD
<b>Distribution</b>	Thymocytes (differentiation dependent), mature T cells, NK-T cells
<b>Function</b>	TCR signal transduction, T cell activation, antigen recognition
<b>Ligand/Receptor</b>	Peptide antigen/MHC-complex
<b>Cell Type</b>	NKT cells, T cells, Thymocytes, Tregs
<b>Biology Area</b>	Immunology
<b>Molecular Family</b>	CD Molecules, TCRs
<b>Antigen References</b>	<ol style="list-style-type: none"> <li>1. Barclay A, <i>et al.</i> 1997. <i>The Leukocyte Antigen FactsBook</i> Academic Press.</li> <li>2. Davis MM. 1990. <i>Annu. Rev. Biochem.</i> 59:475.</li> <li>3. Weiss A, <i>et al.</i> 1994. <i>Cell</i> 76:263.</li> </ol>
<b>Gene ID</b>	<a href="#">12501</a>

## Related Protocols

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[Cell Surface Flow Cytometry Staining Protocol](#)

[Immunocytochemistry Staining Protocol](#)

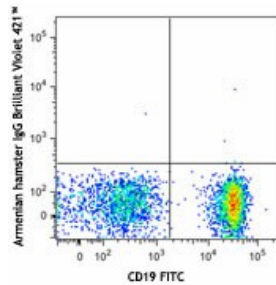
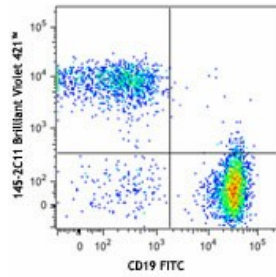
## Other Formats

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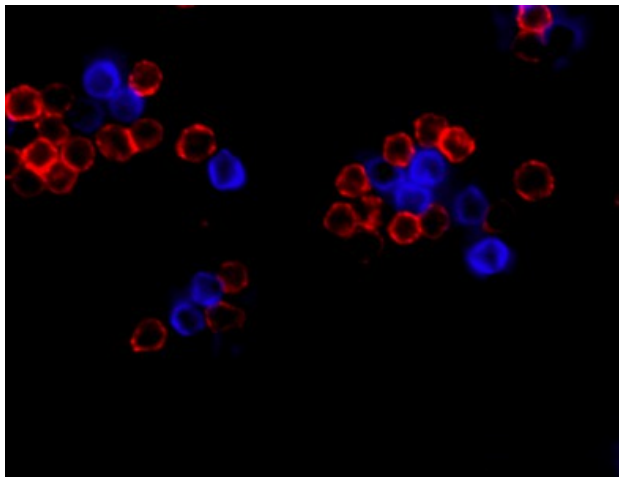
APC anti-mouse CD3 $\epsilon$ , Biotin anti-mouse CD3 $\epsilon$ , FITC anti-mouse CD3 $\epsilon$ , PE anti-mouse CD3 $\epsilon$ , PE/Cyanine5 anti-mouse CD3 $\epsilon$ , Purified anti-mouse CD3 $\epsilon$ , PE/Cyanine7 anti-mouse CD3 $\epsilon$ , Alexa Fluor® 488 anti-mouse CD3 $\epsilon$ , Alexa Fluor® 647 anti-mouse CD3 $\epsilon$ , PerCP anti-mouse CD3 $\epsilon$ , PerCP/Cyanine5.5 anti-mouse CD3 $\epsilon$ , Purified anti-mouse CD3 $\epsilon$  (Maxpar® Ready), APC/Cyanine7 anti-mouse CD3 $\epsilon$ , Pacific Blue™ anti-mouse CD3 $\epsilon$ , Brilliant Violet 421™ anti-mouse CD3 $\epsilon$ , Ultra-LEAF™ Purified anti-mouse CD3 $\epsilon$ , PE/Dazzle™ 594 anti-mouse CD3 $\epsilon$ , Brilliant Violet 510™ anti-mouse CD3 $\epsilon$ , Brilliant Violet 605™ anti-mouse CD3 $\epsilon$ , Brilliant Violet 711™ anti-mouse CD3 $\epsilon$ , Brilliant Violet 785™ anti-mouse CD3 $\epsilon$ , APC/Fire™ 750 anti-mouse CD3 $\epsilon$ , GolnVivo™ Purified anti-mouse CD3 $\epsilon$ , Spark YG™ 593 anti-mouse CD3

## Product Data

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C57BL/6 mouse splenocytes were stained with CD19 FITC and CD3ε (clone 145-2C11) Brilliant Violet 421™ (above) or Armenian hamster IgG Brilliant Violet 421™ isotype control (below).



C57BL/6 mouse splenocytes were fixed with 2% paraformaldehyde (PFA), and then stained with 5 μg/ml CD3 (clone 145-2C11) Brilliant Violet 421™ (blue) and 5 μg/ml CD19 (clone 6D5) Alexa Fluor® 647 (red) for 30 minutes at room temperature. The image was captured by 40X objective.

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