

## Brilliant Violet 421™ anti-human FcεR1α Antibody

<b>Catalog# / Size</b>	334623 / 25 tests 334624 / 100 tests
<b>Clone</b>	AER-37 (CRA-1)
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	FcεR1a, FcεR1-a, FcεR1-alpha, FcεR1 alpha, high affinity IgE receptor
<b>Isotype</b>	Mouse IgG2b, κ
<b>Description</b>	High affinity IgE receptor (FcεR1) plays a key role in IgE-mediated allergic immune response. FcεR1 is a tetrameric receptor complex, which is composed of one α-subunit (FcεR1α), one β-subunit, and two γ-subunits. FcεR1α directly binds IgE with high affinity, while the β- and γ-chains are responsible for mediating intracellular signals. FcεR1α is a 50 kD transmembrane protein with Ig superfamily structure. It is primarily found on mast cells and basophils. Further studies have indicated that FcεR1α is also expressed on many inflammatory cells including cutaneous Langerhans cells, dendritic cells, monocytes of patients with allergic disorders, platelets, bronchial epithelial cells, eosinophils produced in hypereosinophilic syndrome, and neutrophils from allergy-induced asthma patients.

### Product Details

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<b>Verified Reactivity</b>	Human
<b>Reported Reactivity</b>	Baboon, Cynomolgus, Rhesus
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Mouse
<b>Formulation</b>	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA).
<b>Preparation</b>	The antibody was purified by affinity chromatography and conjugated with Brilliant Violet 421™ under optimal conditions.
<b>Concentration</b>	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>
<b>Recommended Usage</b>	Each lot of this antibody is quality control tested by <a href="#">immunofluorescent staining with flow cytometric analysis</a> . For flow cytometric staining, 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.  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 AER-37 (CRA-1) has been reported to bind the receptor even in the presence of IgE. <sup>4</sup>
<b>Application References</b>	1. Yamaguchi M, <i>et al.</i> 1999. <i>J. Immunol.</i> 162:5455.

- Suzukawa M, *et al.* 2005. *Int. Immunol.* 17:1249.
- Charles N, *et al.* 2010. *Nat. Med.* 16:701. (FC) [PubMed](#)
- Yamaguchi M, *et al.* 1999. *J. Immunol.* 162:5455.

## Product Citations

- Argüello RJ, *et al.* 2020. *Cell Metab.* 32:1063. [PubMed](#)
- Dyring-Andersen B, *et al.* 2020. *Nat Commun.* 4.338194444. [PubMed](#)
- Schielke L, *et al.* 2022. *Front Immunol.* 13:916701. [PubMed](#)

## RRID

AB\_2564289 (BioLegend Cat. No. 334623)  
 AB\_2564290 (BioLegend Cat. No. 334624)

## Antigen Details

<b>Structure</b>	Ig superfamily, 50 kD
<b>Distribution</b>	Mast cells, basophils, cutaneous Langerhans cells, dendritic cells, and monocytes from the patients with allergic disorders, platelets, bronchial epithelial cells, eosinophils from hypereosinophilic syndrome, neutrophils from allergic asthmatic patients
<b>Function</b>	Bind IgE, trigger IgE-mediated allergic response
<b>Ligand/Receptor</b>	IgE
<b>Cell Type</b>	Basophils, Dendritic cells, Eosinophils, Langerhans cells, Mast cells, Monocytes, Neutrophils
<b>Biology Area</b>	Immunology
<b>Molecular Family</b>	Fc Receptors
<b>Antigen References</b>	<ol style="list-style-type: none"> <li>Riske F, <i>et al.</i> 1991. <i>J. Biol. Chem.</i> 266:11245</li> <li>Gounni AS, <i>et al.</i> 2001. <i>FASEB J.</i> 15:940.</li> <li>Maurer D, <i>et al.</i> 1996. <i>J. Immunol.</i> 157:607</li> <li>Maurer d, <i>et al.</i> 1994. <i>J. Exp. Med.</i> 179:745</li> <li>Campbell AM, <i>et al.</i> 1998. <i>Am. J. Respir. Cell Mol. Biol.</i> 19:92.</li> </ol>
<b>Gene ID</b>	<a href="#">2205</a>

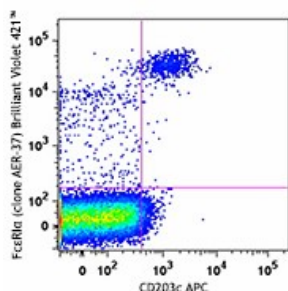
## Related Protocols

[Cell Surface Flow Cytometry Staining Protocol](#)

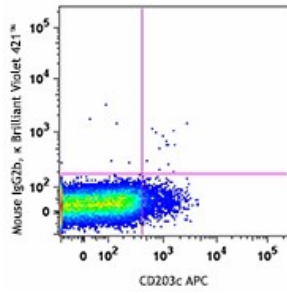
## Other Formats

Purified anti-human FcεR1α, Biotin anti-human FcεR1α, FITC anti-human FcεR1α, PE anti-human FcεR1α, Alexa Fluor® 647 anti-human FcεR1α, PerCP anti-human FcεR1α, APC anti-human FcεR1α, Pacific Blue™ anti-human FcεR1α, PE/Cyanine7 anti-human FcεR1α, PerCP/Cyanine5.5 anti-human FcεR1α, Brilliant Violet 421™ anti-human FcεR1α, Brilliant Violet 510™ anti-human FcεR1α, Direct-Blot™ HRP anti-human FcεR1α, Brilliant Violet 605™ anti-human FcεR1α, APC/Cyanine7 anti-human FcεR1α, Alexa Fluor® 700 anti-human FcεR1α, PE/Dazzle™ 594 anti-human FcεR1α, Brilliant Violet 711™ anti-human FcεR1α, Alexa Fluor® 488 anti-human FcεR1α, TotalSeq™-A0352 anti-human FcεR1α, TotalSeq™-C0352 anti-human FcεR1α, APC/Fire™ 750 anti-human FcεR1α, Ultra-LEAF™ Purified anti-human FcεR1α, TotalSeq™-B0352 anti-human FcεR1α, TotalSeq™-D0352 anti-human FcεR1α

## Product Data



Human peripheral blood lymphocytes were stained with CD203c APC and FcεR1α (clone AER-37) Brilliant Violet 421™ (top) or mouse IgG2b, κ Brilliant Violet 421™ isotype control (bottom).



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