

Brilliant Violet 510™ anti-human FcεRIα Antibody

Catalog# / Size	334626 / 100 tests
Clone	AER-37 (CRA-1)
Regulatory Status	RUO
Other Names	FcεRIa, FcεRI-a, FcεRI-alpha, FcεRI alpha, high affinity IgE receptor
Isotype	Mouse IgG2b, κ

Description High affinity IgE receptor (FcεRI) plays a key role in IgE-mediated allergic immune response. FcεRI is a tetrameric receptor complex, which is composed of one α-subunit (FcεRIα), one β-subunit, and two γ-subunits. FcεRIα directly binds IgE with high affinity, while the β- and γ-chains are responsible for mediating intracellular signals. FcεRIα is a 50 kD transmembrane protein with Ig superfamily structure. It is primarily found on mast cells and basophils. Further studies have indicated that FcεRIα 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

Verified Reactivity	Human
Reported Reactivity	Baboon, Cynomolgus, Rhesus
Antibody Type	Monoclonal
Host Species	Mouse
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA).
Preparation	The antibody was purified by affinity chromatography and conjugated with Brilliant Violet 510™ under optimal conditions.
Concentration	Lot-specific (to obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.)
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. Do not freeze.
Application	FC - Quality tested
Recommended Usage	Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis . 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 510™ excites at 405 nm and emits at 510 nm. The bandpass filter 510/50 nm is recommended for detection, although filter optimization may be required depending on other fluorophores used. **Be sure to verify that your cytometer configuration and software setup are appropriate for detecting this channel.** Refer to your instrument manual or manufacturer for support. Brilliant Violet 510™ is a trademark of Sirigen Group Ltd.

[Learn more about Brilliant Violet™.](#)

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Excitation Laser	Violet Laser (405 nm)
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Application Notes	Clone AER-37 (CRA-1) has been reported to bind the receptor even in the presence of IgE. ⁴
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Application References

(PubMed link indicates BioLegend citation)

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

Product Citations

1. Chen L *et al.* 2018. *Immunity.* 49(3):464-476. [PubMed](#)
2. Scoville SD, *et al.* 2018. *Blood.* 132:1792. [PubMed](#)
3. Wang F, *et al.* 2021. *Cell.* 184(2):422-440.e17. [PubMed](#)

RRID

AB_2564291 (BioLegend Cat. No. 334626)

Antigen Details

Structure

Ig superfamily, 50 kD

Distribution

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

Function

Bind IgE, trigger IgE-mediated allergic response

Ligand/Receptor

IgE

Cell Type

Basophils, Dendritic cells, Eosinophils, Langerhans cells, Mast cells, Monocytes, Neutrophils

Biology Area

Immunology

Molecular Family

Fc Receptors

Antigen References

1. Riske F, *et al.* 1991. *J. Biol. Chem.* 266:11245
2. Gounni AS, *et al.* 2001. *FASEB J.* 15:940.
3. Maurer D, *et al.* 1996. *J. Immunol.* 157:607
4. Maurer d, *et al.* 1994. *J. Exp. Med.* 179:745
5. Campbell AM, *et al.* 1998. *Am. J. Respir. Cell Mol. Biol.* 19:92.

Gene ID

[2205](#)

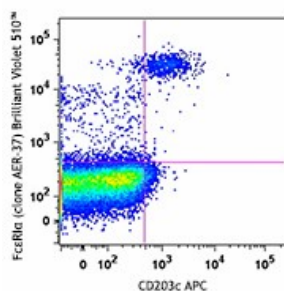
Related Protocols

[Cell Surface Flow Cytometry Staining Protocol](#)

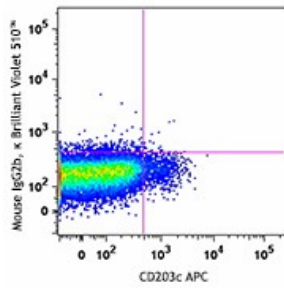
Other Formats

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, UltraLEAF™ 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 510™ (top) or mouse IgG2b, κ Brilliant Violet 510™ isotype control (bottom).



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