

Brilliant Violet 421™ anti-mouse/human IL-5 Antibody

Catalog# / Size	504311 / 50 µg
Clone	TRFK5
Regulatory Status	RUO
Other Names	Interleukin-5, Eosinophil differentiation factor (EDF), Eosinophil colony stimulating factor (Eo-CSF), B cell growth factor-2 (BCGF-2), B cell differentiation factor for IgM (BCDF-m), IgA enhancing factor (IgA-EF), T-cell replacing factor-1 (TRF-1)
Isotype	Rat IgG1, κ
Description	IL-5 is a homodimeric, disulphide-linked protein produced by T-cells. Monomeric human IL-5 is a 126 amino acid protein with a reported molecular weight of 26 kD for the homodimeric protein. Mouse and human IL-5 are approximately 70% identical. IL-5 has been shown to promote the growth of immature hematopoietic BFU-E progenitors, stimulate the activation and differentiation of eosinophils, and promote the generation of cytotoxic lymphocytes. Mouse IL-5 induces the differentiation and proliferation of pre-activated B-cells and stimulates the production and secretion of IgM and IgA by B-cells stimulated with bacterial endotoxin. The TRFK5 antibody can neutralize the bioactivity of natural or recombinant IL-5.

Product Details

Verified Reactivity	Mouse, Human
Reported Reactivity	Guinea Pig
Antibody Type	Monoclonal
Host Species	Rat
Immunogen	Partially-purified T cell clone supernatant
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 421™ under optimal conditions.
Concentration	0.2 mg/ml
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	ICFC - Quality tested
Recommended Usage	<p>Each lot of this antibody is quality control tested by intracellular immunofluorescent staining with flow cytometric analysis. For flow cytometric staining, the suggested use of this reagent is ≤0.25 µg per million cells in 100 µl volume. It is recommended that the reagent be titrated for optimal performance for each application.</p> <p>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.</p> <p>Learn more about Brilliant Violet™.</p> <p>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.</p>
Excitation Laser	Violet Laser (405 nm)
Application Notes	ELISA^{1,3,4} or ELISPOT^{2,6} Capture: The purified TRFK5 antibody is useful as a capture antibody for a sandwich ELISA or ELISPOT assay, when used in conjunction with biotinylated TRFK4

antibody (Cat. No. 504402) as the detection antibody for mouse IL-5, or used in conjunction with biotinylated JES1-5A10 antibody (Cat. No. 501002) as the detection antibody for human IL-5. The Ultra-LEAF™ purified antibody is suggested for ELISPOT capture.

Flow Cytometry: The fluorochrome-labeled TRFK51 antibody is useful for intracellular immunofluorescent staining and flow cytometric analysis to identify IL-5-producing cells within mixed cell populations.

Neutralization^{1,9}: The Ultra-LEAF™ purified antibody (Endotoxin <0.1 EU/μg, Azide-Free, 0.2 μm filtered) is recommended for neutralization of human IL-5 bioactivity (Cat. Nos. 504313-504318).

Additional reported applications (for the relevant formats) include: Western blotting, immunohistochemical staining of formalin-fixed paraffin-embedded tissue sections⁸ and paraformaldehyde-fixed, saponin-treated frozen tissue sections⁷, and immunocytochemistry.

Note: For testing human IL-5 in serum or plasma, BioLegend's ELISA Max™ Sets (Cat. No. 430401 and 430404) are specially developed and recommended. For testing mouse IL-5 in serum, plasma or supernatant, BioLegend's ELISA MAX™ Sets (Cat. Nos. 431201 and 431206) are specially developed and recommended.

Application References

(PubMed link indicates BioLegend citation)

1. Abrams, J. 1995. *Curr. Prot. Immunol.* John Wiley and Sons, New York. Unit 6.20.
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9. Sitkauskienė, B., et al. 2005. *Respir Res.* 6:33.

Product Citations

1. Fu Z, et al. 2019. *Cell Rep.* 28:159. [PubMed](#)
2. Golebski K, et al. 2019. *Nat Commun.* 10:2162. [PubMed](#)
3. Kaur K, et al. 2021. *Cell Rep.* 37:110178. [PubMed](#)
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6. Holly Bachus et al. 2018. *Immunity.* 50(1):225-240. [PubMed](#)
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11. Bosnjak B, et al. 2021. *Front Immunol.* 12:772240. [PubMed](#)
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15. Wawrzyniak M, et al. 2021. *Pharmacol Res Perspect.* 9:e00837. [PubMed](#)
16. Chetty A, et al. 2021. *Cell Host Microbe.* 29:579. [PubMed](#)
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RRID AB_2563161 (BioLegend Cat. No. 504311)

Antigen Details

Structure	Cytokine; dimer; 40-50 kD (Mammalian)
Bioactivity	Growth/differentiation of B cells, eosinophils; proliferation/cell activation/differentiation of eosinophilic granulocytes
Cell Sources	Mast cells, T cells, eosinophils
Cell Targets	Eosinophils, B cells
Receptors	Heterodimer IL-5Rα (CD125); β-subunit (CDw131) in common with IL-3R, GM-CSFR
Biology Area	Immunology
Molecular Family	Cytokines/Chemokines
Antigen References	<ol style="list-style-type: none">1. Fitzgerald, K., et al. Eds. 2001. <i>The Cytokine FactsBook.</i> Academic Press, San Diego.2. Takatsu, K., et al. 1988. <i>Immunol. Rev.</i> 102:107.3. Takatsu, K. 1992. <i>Curr. Opin. Immunol.</i> 4:299.4. Takatsu, K. 1991. <i>Microbiol. Immunol.</i> 35:593.
Gene ID	16191

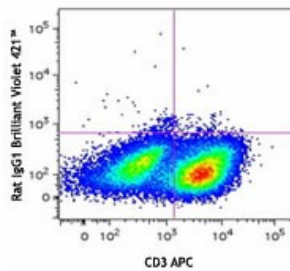
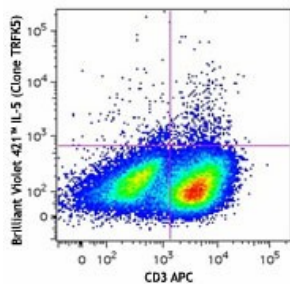
Related Protocols

[Cell Surface Flow Cytometry Staining Protocol](#)

Other Formats

APC anti-mouse/human IL-5, PE anti-mouse/human IL-5, Purified anti-mouse/human IL-5, Purified anti-mouse/human IL-5 (Maxpar® Ready), Brilliant Violet 421™ anti-mouse/human IL-5, Ultra-LEAF™ Purified anti-mouse/human IL-5

Product Data



PMA+ionomycin (6 hours)-stimulated Th2 polarized BALB/c splenocytes were stained with CD3 APC, and then intracellularly stained with IL-5 (clone TRFK5) Brilliant Violet 421™ or rat IgG1 Brilliant Violet 421™ isotype control (bottom).

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