Brilliant Violet 421™ anti-mouse IL-2 Antibody

Catalog# / Size	503825 / 125 µL 503826 / 50 µg
Clone	JES6-5H4
Regulatory Status	RUO
Other Names	Interleukin-2, T cell growth factor (TCGF), Eosinophil differentiation factor (EDF), Killer cell helper factor (KHF), Macrophage-activating factor for cytotoxicity I (MAF-C I), Thymocyte differentiation factor (TDF)
Isotype	Rat IgG2b, κ
Description	IL-2 is a potent lymphoid cell growth factor which exerts its biological activity primarily on T cells. Additionally, IL-2 has been found to stimulate growth and differentiation of B cells, NK cells, LAK cells, monocytes, and oligodendrocytes.

Product Details

Verified Reactivity	Mouse
Antibody Type	Monoclonal
Host Species	Rat
Immunogen	*E. coli*-expressed, recombinant mouse IL-2
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	µg size: 0.2 mg/mL µL size: 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	ICFC - Quality tested
Recommended Usage	Each lot of this antibody is quality control tested by intracellular immunofluorescent staining with flow cytometric analysis. For flow cytometric staining using the µl size, 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. For flow cytometric staining using the µg size, the suggested use of this reagent is ≤0.125 µg per million cells in 100 µl volume. 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. Learn more about Brilliant Violet™. 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.
Excitation Laser	Violet Laser (405 nm)
Application Notes	**ELISA Detection[1-3] or ELISPOT Detection[4-6]**: The biotinylated JES6-5H4 antibody is useful as a detection antibody for a sandwich ELISA or ELISPOT assay, when used in conjunction with the purified JES6-1A12 antibody (Cat. Nos. 503701 & 503702) as capture antibody and recombinant mouse IL-2 (Cat. No. 575409) as the standard.

Flow Cytometry[8-10]: The fluorochrome-labeled JES6-5H4 antibody is useful for intracellular immunofluorescent staining and flow cytometric analysis to identify IL-2 -producing cells within mixed cell populations.
Neutralization[1,7]: The Ultra-LEAF™ purified antibody (Endotoxin *in vivo* and *in vitro* (Cat. No. 503845-503850)) is recommended for neutralization.
Additional reported applications (for the relevant formats) include: immunoprecipitation[1], immunohistochemical staining of paraformaldehyde-fixed, saponin-treated frozen tissue sections[2], *in vivo* capture[7], and immunocytochemistry.
Note: For testing mouse IL-2 in serum, plasma or supernatant, BioLegend's ELISA MAX™ Sets (Cat. No. 431001 & 431004) are specially developed and recommended.

Additional Product Notes

View more applications data for this product in our Scientific Poster Library.

Application References

(PubMed link indicates BioLegend citation)

1. Abrams J, *et al.* 1992. *Immunol. Rev.* 127:5.
2. Sander B, *et al.* 1993. *J. Immunol. Meth.* 166:201.
3. Abrams J. 1995. *Curr. Prot. Immunol.* John Wiley and Sons New York. Unit 6.20.
4. Klinman D, *et al.* 1994. *Curr. Prot. Immunol.* John Wiley and Sons New York. Unit 6.19.
5. Mo X, *et al.* 1995. *J. Virol.* 69:1288.
6. Karulin A, *et al.* 2000. *J. Immunol.* 164:1862.
7. Finkelman F, *et al.* 2003. *Curr. Prot. Immunol.* John Wiley & Sons New York. Unit 6.28.
8. Ko SY, *et al.* 2005. *J. Immunol.* 175:3309. PubMed
9. Kang SS and Allen PM. 2005. *J. Immunol.* 174:5382.
10. Lawson BR, *et al.* 2007. *J. Immunol.* 178:5366.

Product Citations

1. Li B, Schmidt N 2016. PLoS One. 11: 0162427. PubMed
2. Haratani K, *et al.* 2019. J Clin Invest. 130:374. PubMed
3. Elong Ngono A, *et al.* 2020. Cell Reports. 1.330555556. PubMed
4. Ma J, *et al.* 2020. Adv Sci (Weinh). 7:2000609. PubMed
5. Kinder JM, *et al.* 2020. Cell Reports. 31(12):107784.. PubMed
6. Chakrabarti J, *et al.* 2018. Oncotarget. 9:37439. PubMed
7. Montel-Hagen A, *et al.* 2020. Cell Rep. 33:108320. PubMed
8. Pishesha N, *et al.* 2021. Proc Natl Acad Sci U S A. 118:. PubMed
9. Holokai L, *et al.* 2020. Cancers (Basel). 12:00. PubMed
10. Bullard BL, *et al.* 2022. NPJ Vaccines. 7:65. PubMed
11. Morris AB, *et al.* 2020. Immunity. 52(1):136-150.e6.. PubMed
12. Dudeck J, *et al.* 2019. J Allergy Clin Immunol. 143:1849. PubMed
13. Marshall N, *et al.* 2015. Toxicol Sci. 147: 127-139. PubMed
14. Wen J, *et al.* 2020. Cell Rep. 31:107566. PubMed
15. Karanika S, *et al.* 2022. Front Immunol. 13:972266. PubMed

RRID

AB_10895901 (BioLegend Cat. No. 503825)
AB_2650897 (BioLegend Cat. No. 503826)

Antigen Details

Structure

Cytokine; 15-30 kD (Mammalian)

Bioactivity

Proliferation of T lymphocytes, B cells, anti-inflammatory, hematopoiesis, tumor surveillance

Cell Sources

T cells

Cell Targets

T cells, B cells, NK cells, LAK cells, monocytes, macrophages, oligodendrocytes

Receptors

High affinity heterotrimer of IL-2Rα/β/γ, intermediate affinity homodimer IL-2Rα (CD25; p55; Tac) and heterodimer IL-2Rβ (CD122)/γ; γ-subunit (CD132) in common with IL-4R, IL-7R, IL-13R, IL-15R

Cell Type

Tregs

Biology Area

Immunology

Molecular Family

Cytokines/Chemokines

Antigen References

1. Fitzgerald K, *et al.* Eds. 2001. The Cytokine FactsBook. Academic Press San Diego.
2. Taniguchi T, *et al.* 1993. *Cell* 73:5.
3. Nistico G. 1993. *Prog. Neurobiol.* 40:463.
4. Waldmann T, *et al.* 1993. *Ann. NY Acad. Sci.* 685:603.

Regulation

Upregulated by NFAT; downregulated by TCF-8, CIF (colostrum inhibitory factor)

Gene ID

16183

Related Protocols

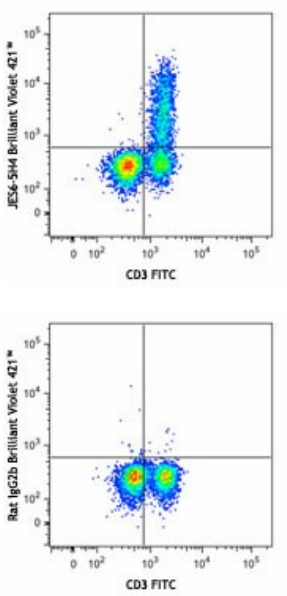
Surface and Intracellular Cytokine Staining for Flow Cytometry - Video

Intracellular Flow Cytometry Staining Protocol

Other Formats

APC anti-mouse IL-2, Biotin anti-mouse IL-2, FITC anti-mouse IL-2, PE anti-mouse IL-2, Purified anti-mouse IL-2, Alexa Fluor® 488 anti-mouse IL-2, Alexa Fluor® 647 anti-mouse IL-2, Alexa Fluor® 700 anti-mouse IL-2, Pacific Blue™ anti-mouse IL-2, PerCP/Cyanine5.5 anti-mouse IL-2, PE/Cyanine5 anti-mouse IL-2, Brilliant Violet 421™ anti-mouse IL-2, Brilliant Violet 605™ anti-mouse IL-2, PE/Cyanine7 anti-mouse IL-2, Brilliant Violet 510™ anti-mouse IL-2, Purified anti-mouse IL-2 (Maxpar® Ready), Brilliant Violet 711™ anti-mouse IL-2, PE/Dazzle™ 594 anti-mouse IL-2, APC/Fire™ 750 anti-mouse IL-2, Brilliant Violet 785™ anti-mouse IL-2

Product Data



C57BL/6 mouse splenocytes were stimulated with PMA + Ionomycin for 6 hours (in the presence of monensin), stained with CD3 FITC, fixed, permeabilized, and then stained with IL-2 (clone JES6-5H4) Brilliant Violet 421™ (top) or rat IgG2b, κ Brilliant Violet 421™ isotype control (bottom).

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