Alexa Fluor® 647 anti-Cytochrome c Antibody

Catalog# / Size	612310 / 100 µg
Clone	6H2.B4
Regulatory Status	RUO
Other Names	Cyt c
Isotype	Mouse IgG1, κ
Description	Cytochrome c is a 15 kD protein found in the mitochondrial intermembrane space with a heme-binding domain. Cytochrome c is a component of the electron transport chain; the heme group transfers electrons from cytochrome b-c1 complex to cytochrome oxidase complex. Cytochrome c initiates apoptosis by release to cytoplasm and binding Apaf-1 which activates procaspase 9. Cytochrome c interacts with the cytochrome b-c1 complex, cytochrome oxidase complex, heme, Apaf-1, and Caspase 9 proteins. The 6H2.B4 monoclonal antibody recognizes human, mouse, and rat cytochrome-c and has been shown to be useful for intracellular flow cytometric staining, Western blotting, immunoprecipitation, and immunofluorescence staining.

Product Details

Verified Reactivity	Mouse, Rat, Human
Antibody Type	Monoclonal
Host Species	Mouse
Immunogen	Rat cyt c-OVA
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
Preparation	The antibody was purified by affinity chromatography and conjugated with Alexa Fluor® 647 under optimal conditions.
Concentration	0.5 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 ICC - Verified
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 ≤0.5 µg per million cells in 100 µl volume. For immunocytochemistry, a concentration range of 2.0 - 5.0 µg/mL is recommended. It is recommended that the reagent be titrated for optimal performance for each application. * Alexa Fluor® 647 has a maximum emission of 668 nm when it is excited at 633 nm / 635 nm. Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation. View full statement regarding label licenses
Excitation Laser	Red Laser (633 nm)
Application Notes	Additional reported applications (for the relevant formats) include: intracellular flow cytometry[5], immunofluorescence microscopy[3,5], immunoprecipitation[4], and immunocytochemistry[5].

Application References

(PubMed link indicates BioLegend citation)

1. Goshorn SC, *et al.* 1991. *J. Biol. Chem.* 266:2134.
2. Jemmerson R, *et al.* 1991. *Eur. J. Immunol.* 21:143.
3. Chandra D, *et al.* 2002. *J. Biol. Chem.* 277:50842. (IF)
4. Semenkova L, *et al.* 2003. *Eur. J. Biochem.* 270:4388. (IP)
5. Shih S-F, *et al.* 2001. *J. Biol. Chem.* 276:21870. (ICFC ICC IF)
6. She P, *et al.* 2011. *Am J. Physiol Endcorinol Metab.*301:E49. PubMed

7. McGuire, KA., *et al.* 2011. *J. Virol* 85:10806. PubMed

Product Citations

1. Sekar G, *et al.* 2022. iScience. 25:105064. PubMed
2. Alcon C, *et al.* 2020. Cell Death Dis. 0.898611111. PubMed
3. Deng J, *et al.* 2021. Cell Death Dis. 12:978. PubMed
4. Ramsey HE, *et al.* 2018. Cancer Discov. 8:1566. PubMed
5. Meyer LK, *et al.* 2019. J Clin Invest. 130:863. PubMed
6. Olesinski EA, *et al.* 2021. STAR Protocols. 2(2):100461. PubMed
7. Fraser C, *et al.* 2022. Nat Commun. 13:5789. PubMed
8. Jenson J, *et al.* 2017. Elife. 10.7554/eLife.25541. PubMed
9. Bhatt S, *et al.* 2020. Cancer Cell. 38(6):872-890.e6. PubMed
10. Canedo EC, *et al.* 2021. JCI Insight. 6:. PubMed
11. Potter DS, *et al.* 2021. Cell Death Dis. 12:741. PubMed
12. Manzano-Muñoz A, *et al.* 2021. Front Cell Dev Biol. 9:695225. PubMed
13. Alcon C, *et al.* 2021. Cells. 10:. PubMed
14. Victorino F, *et al.* 2021. eLife. 0.416666666666667. PubMed
15. Dhimolea E, *et al.* 2021. Cancer Cell. 39:240. PubMed
16. Liang Z, *et al.* 2021. J Immunol. 207:2039. PubMed

RRID AB_2565241 (BioLegend Cat. No. 612310)

Antigen Details

Structure Heme binding domain; 15 kD

Distribution Mitochondrial intermembrane space

Function Component of electron transport chain; heme group transfers electrons from cytochrome b-c1 complex to cytochrome oxidase complex. Initiates apoptosis by release to cytoplasm and binding Apaf-1 which activates procaspase 9

Interaction Cytochrome b-c1 complex, cytochrome oxidase complex, heme, Apaf-1, Casp9

Biology Area Apoptosis/Tumor Suppressors/Cell Death, Cell Biology, Mitochondrial Function, Neuroscience, Neuroscience Cell Markers

Molecular Family Mitochondrial Markers

Antigen References

1. Liu X, *et al.* 1996. *Cell.* 86:147.
2. Li P, *et al.* 1997. *Cell.* 91:479.
3. Zhang Z, *et al.* 2003. *Gene* 312:61.
4. Ferguson H, *et al.* 2003. *J. Biol. Chem.* 278:45793.

Gene ID 1355

Related Protocols

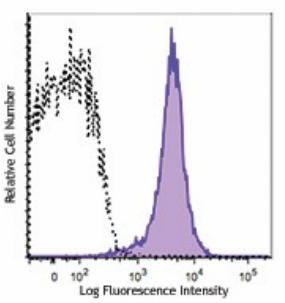
Surface and Intracellular Cytokine Staining for Flow Cytometry - Video

Intracellular Flow Cytometry Staining Protocol

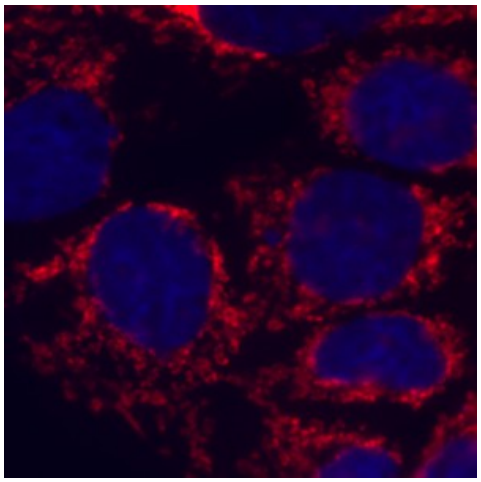
Other Formats

Biotin anti-Cytochrome c, FITC anti-Cytochrome c, Purified anti-Cytochrome c, Alexa Fluor® 488 anti-Cytochrome c, Alexa Fluor® 647 anti-Cytochrome c, GMP FITC anti-Cytochrome c

Product Data



C57BL/6 splenocytes were treated with BioLegend's Fixation Buffer and Permeabilization Wash Buffer, and then were stained with Cytochrome C (clone 6H2-B4) Alexa Fluor® 647 (filled histogram) or mouse IgG1, κ Alexa Fluor® 647 isotype control (open histogram).



A-431 cells were fixed with 4% paraformaldehyde for 10 minutes, permeabilized with Triton X-100 for 10 minutes, and blocked with 5% FBS for 60 minutes. Cells were then intracellularly stained with a 1:250 dilution (2.0 µg/mL) of Alexa Fluor® 647 anti-Cytochrome c Antibody, clone 6H2.B4. Nuclei were counterstained with DAPI, and the image was captured with a 60X objective.

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