

Datasheet: MCA4685A488

Description:	MOUSE ANTI HUMAN CYTOCHROME B245 HEAVY CHAIN:Alexa Fluor® 488
Specificity:	CYTOCHROME B245 HEAVY CHAIN
Other names:	gp91phox
Format:	ALEXA FLUOR® 488
Product Type:	Monoclonal Antibody
Clone:	NL7
Isotype:	IgG1
Quantity:	100 TESTS/1ml

Product Details

RRID AB_1963532

Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit www.bio-rad-antibodies.com/protocols.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry (1)	▪			Neat
Immunohistology - Frozen			▪	
Immunohistology - Paraffin			▪	
ELISA			▪	
Immunoprecipitation			▪	
Western Blotting			▪	

Where this product has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the product for use in their own system using appropriate negative/positive controls.

(1)Membrane permeabilisation is required for this application. Bio-Rad recommends the use of Leucoperm™ (Product Code [BUF09](#)) for this purpose.

Target Species Human

Product Form Purified IgG conjugated to Alexa Fluor 488 - liquid

Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	Alexa Fluor®488	495	519

Preparation Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant

Buffer Solution Phosphate buffered saline

Preservative 0.09% Sodium Azide (NaN₃)
Stabilisers 1% Bovine Serum Albumin

Approx. Protein Concentrations	IgG concentration 0.05mg/ml
Immunogen	Cytochrome B245 solubilised in octyl-beta-glucopyranoside.
External Database Links	<p>UniProt: P04839 Related reagents</p> <p>Entrez Gene: 1536 CYBB Related reagents</p>
Synonyms	NOX2
Fusion Partners	Spleen cells from immunised BALB/c were fused with cells of the 3PU1 myeloma cell line.
Specificity	<p>Mouse anti Human Cytochrome B245 Heavy Chain antibody, clone NL7 recognizes the heavy chain of cytochrome B245, also known as gp91phox or NOX2, a subunit of the nicotinamide adenine dinucleotide phosphate-oxidase (NADPH oxidase). NADPH oxidase is a membrane-bound enzyme complex in neutrophils that produces the superoxide anion (O₂⁻) by transferring single electrons from NADPH inside the cell across the membrane and coupling them to molecular oxygen. Superoxide is used for the destruction of pathogens. Individuals with defects in NADPH oxidase suffer from chronic granulomatous disease, characterised by severe recurrent infections.</p> <p>The heavy chain (gp91phox), along with the light chain (p22phox) form cytochrome B245 (also known as flavocytochrome b, or Cyt b), which is always membrane-resident. Upon the appropriate stimulus, other components of NADPH oxidase (p47phox, p40phox, p67phox and Rac2) rapidly translocate from the cytosol to the cell membrane to form the complete enzyme complex. Cytochrome B245 appears to serve as a scaffold for the assembly of the other cytosolic units of the oxidase and to provide a transmembrane pathway for electrons.</p> <p>Mouse anti Human Cytochrome B245 Heavy Chain antibody, clone NL7 binds amino acids 498-506 (EKDVTGLK), a cytosolic epitope on gp91phox not accessible on intact neutrophils. It recognizes the native as well as the denatured form of the protein. Clone NL7 has an inhibitory effect on NADPH oxidase activation. Research indicates that this inhibitory effect is exerted during the initial stages of oxidase activation. The antibody does not interfere with the translocation of the cytosolic subunits of NADPH oxidase to the cell membrane.</p>
Flow Cytometry	Use 10ul of the suggested working dilution to label 1x10 ⁶ cells in 100ul.
References	<ol style="list-style-type: none"> Burritt, J.B. <i>et al.</i> (2003) Functional epitope on human neutrophil flavocytochrome b558. J Immunol. 170 (12): 6082-9. Taylor, R.M. <i>et al.</i> (2004) Site-specific inhibitors of NADPH oxidase activity and structural probes of flavocytochrome b: characterization of six monoclonal antibodies to the p22phox subunit. J Immunol. 173 (12): 7349-57. Taylor, R.M. <i>et al.</i> (2007) Cloning, sequence analysis and confirmation of derived gene sequences for three epitope-mapped monoclonal antibodies against human phagocyte flavocytochrome b. Mol Immunol. 44 (4): 625-37. Cao, S. (2010) Fc gamma receptors are required for NF-kappaB signaling, microglial activation and dopaminergic neurodegeneration in an AAV-synuclein mouse model of Parkinson's disease. Mol Neurodegener. 5: 42. Kovács I <i>et al.</i> (2015) Reactive oxygen species-mediated bacterial killing by B lymphocytes. Leukoc Biol. 97 (6): 1133-7.

Storage	<p>Store at +4°C or at -20°C if preferred.</p> <p>Storage in frost-free freezers is not recommended.</p> <p>This product should be stored undiluted. This product is photosensitive and should be protected from light. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.</p>
Guarantee	18 months from date of despatch.
Acknowledgements	<p>This product is provided under an intellectual property licence from Life Technologies Corporation. The transfer of this product is contingent on the buyer using the purchase product solely in research, excluding contract research or any fee for service research, and the buyer must not sell or otherwise transfer this product or its components for (a) diagnostic, therapeutic or prophylactic purposes; (b) testing, analysis or screening services, or information in return for compensation on a per-test basis; (c) manufacturing or quality assurance or quality control, or (d) resale, whether or not resold for use in research. For information on purchasing a license to this product for purposes other than as described above, contact Life Technologies Corporation, 5791 Van Allen Way, Carlsbad CA 92008 USA or outlicensing@thermofisher.com</p>
Health And Safety Information	<p>Material Safety Datasheet documentation #10041 available at: 10041: https://www.bio-rad-antibodies.com/uploads/MSDS/10041.pdf</p>
Regulatory	For research purposes only

Related Products

Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL:Alexa Fluor® 488 \(MCA928A488\)](#)

Recommended Useful Reagents

[HUMAN SEROBLOCK \(BUF070A\)](#)

[HUMAN SEROBLOCK \(BUF070B\)](#)

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