

Datasheet: MCA4685

Description:	MOUSE ANTI HUMAN CYTOCHROME B245 HEAVY CHAIN
Specificity:	CYTOCHROME B245 HEAVY CHAIN
Other names:	gp91phox
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	NL7
Isotype:	IgG1
Quantity:	0.2 mg

Product Details

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)	■			
Immunohistology - Frozen	■			
Immunohistology - Paraffin			■	
ELISA	■			
Immunoprecipitation			■	
Western Blotting	■			
Immunofluorescence	■			

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 - liquid
Preparation	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant
Buffer Solution	Phosphate buffered saline
Preservative Stabilisers	0.09% Sodium Azide (NaN ₃)
Carrier Free	Yes
Approx. Protein Concentrations	IgG concentration 1.0mg/ml

Immunogen	Cytochrome B245 solubilised in octyl-beta-glucopyranoside.
External Database Links	UniProt: P04839 Related reagents Entrez Gene: 1536 CYBB Related reagents
Synonyms	NOX2
Fusion Partners	Spleen cells from immunised BALB/c were fused with cells of the 3PU1 myeloma cell line.
Specificity	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 (O_2^-) 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. 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. Mouse anti Human Cytochrome B245 Heavy Chain antibody, clone NL7 binds amino acids 498-506 (EKDVITGLK), 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.
Flow Cytometry	Use 10ul of the suggested working dilution to label 1×10^6 cells in 100ul.
Western Blotting	MCA4685 detects a broad band of approximately 90kDa
References	- 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	Store at +4°C or at -20°C if preferred. Storage in frost-free freezers is not recommended. This product should be stored undiluted. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.
Shelf Life	18 months from date of despatch.
Health And Safety Information	Material Safety Datasheet documentation #10040 available at: 10040: https://www.bio-rad-antibodies.com/uploads/MSDS/10040.pdf
Regulatory	For research purposes only

Related Products

Recommended Secondary Antibodies

Goat Anti Mouse IgG (STAR76...)	RPE
Goat Anti Mouse IgG IgA IgM (STAR87...)	Alk. Phos. , HRP
Rabbit Anti Mouse IgG (STAR9...)	FITC
Goat Anti Mouse IgG (STAR77...)	HRP
Rabbit Anti Mouse IgG (STAR12...)	RPE
Goat Anti Mouse IgG (Fc) (STAR120...)	FITC , HRP
Rabbit Anti Mouse IgG (STAR8...)	DyLight®800
Goat Anti Mouse IgG (STAR70...)	FITC
Rabbit Anti Mouse IgG (STAR13...)	HRP
Human Anti Mouse IgG1 (HCA036...)	HRP
Goat Anti Mouse IgG (H/L) (STAR117...)	Alk. Phos. , DyLight®488 , DyLight®549 , DyLight®649 , DyLight®680 , DyLight®800 , FITC , HRP

Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL \(MCA928\)](#)

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