

## Datasheet: MCA4686GA

<b>Description:</b>	MOUSE ANTI HUMAN CYTOCHROME B245 LIGHT CHAIN
<b>Specificity:</b>	CYTOCHROME B245 LIGHT CHAIN
<b>Other names:</b>	p22phox
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	CS9
<b>Isotype:</b>	IgG1
<b>Quantity:</b>	0.1 mg

## Product Details

**RRID** AB\_1935432

**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](http://www.bio-rad-antibodies.com/protocols).

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry (1)	▪			1/10 - 1/100
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.**

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

## Concentrations

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**Immunogen** Cytochrome B245 solubilised in octyl-beta-glucopyranoside.

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## External Database Links

**UniProt:**

[P13498](#) [Related reagents](#)

**Entrez Gene:**

[1535](#) CYBA [Related reagents](#)

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**Fusion Partners** Spleen cells from immunised BALB/c mice were fused with cells of the 3PU1 myeloma cell line.

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## Specificity

**Mouse anti Human Cytochrome B245 Light Chain antibody, clone CS9** recognizes the light chain of cytochrome B245, also known as p22phox, 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 light chain (p22phox), along with the heavy chain (gp91phox) 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.

The core region of the CS9 epitope is amino acids 165 - 169 (KKPSE), a cytosolic epitope on p22phox not accessible on intact neutrophils. Mouse anti Human Cytochrome B245 Light Chain antibody, clone CS9 also has an inhibitory effect on NADPH oxidase activation.

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**Flow Cytometry** Use 10ul of the suggested working dilution to label  $1 \times 10^6$  cells in 100ul.

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**Western Blotting** MCA4686GA detects a band of approximately 19kDa in neutrophil membrane extracts

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**References** 1. Taylor, R.M. *et al.* (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.](#)

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**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.

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**Guarantee** 18 months from date of despatch.

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**Health And Safety Information** Material Safety Datasheet documentation #10040 available at: 10040: <https://www.bio-rad-antibodies.com/uploads/MSDS/10040.pdf>

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**Regulatory** For research purposes only

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## Related Products

### Recommended Secondary Antibodies

Goat Anti Mouse IgG IgA IgM (STAR87...) [Alk. Phos.](#), [HRP](#)  
Goat Anti Mouse IgG (STAR77...) [HRP](#)  
Rabbit Anti Mouse IgG (STAR12...) [RPE](#)  
Rabbit Anti Mouse IgG (STAR8...) [DyLight@800](#)  
Rabbit Anti Mouse IgG (STAR13...) [HRP](#)  
Goat Anti Mouse IgG (STAR76...) [RPE](#)  
Goat Anti Mouse IgG (STAR70...) [FITC](#)  
Goat Anti Mouse IgG (Fc) (STAR120...) [FITC](#), [HRP](#)  
Rabbit Anti Mouse IgG (STAR9...) [FITC](#)  
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 \(MCA928\)](#)

<b>North &amp; South America</b>	Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: <a href="mailto:antibody_sales_us@bio-rad.com">antibody_sales_us@bio-rad.com</a>	<b>Worldwide</b>	Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: <a href="mailto:antibody_sales_uk@bio-rad.com">antibody_sales_uk@bio-rad.com</a>	<b>Europe</b>	Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: <a href="mailto:antibody_sales_de@bio-rad.com">antibody_sales_de@bio-rad.com</a>
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