Datasheet: MCA5639

BATCH NUMBER 169790

Description:	MOUSE ANTI HUMAN APOLIPOPROTEIN E
Specificity:	APOLIPOPROTEIN E
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	WUE-4
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			▪	
Immunohistology - Frozen			▪	
Immunohistology - Paraffin			▪	
ELISA	▪			1/100 - 1/1000
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.

Target Species

Human

Species Cross Reactivity

Reacts with: Mouse
Does not react with:Sea Lion, Harbour seal
N.B. Antibody reactivity and working conditions may vary between species. Cross reactivity is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information.

Product Form

Purified IgG - liquid

Preparation

Purified IgG prepared by affinity chromatography on Protein A 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 1.0 mg/ml
Immunogen	Purified ApoHDL fraction.
External Database Links	**UniProt:** P02649 Related reagents **Entrez Gene:** 348 APOE Related reagents
RRID	AB_10841622
Fusion Partners	Spleen cells from immunised Balb/c mice were fused with cells of the Sp2/O-Ag14 mouse myeloma cell line.
Specificity	**Mouse anti Human Apolipoprotein E antibody, clone WUE-4** recognizes an epitope within amino acids 140-160 of human apolipoprotein E (Apo-E), a major component of very low-density lipoproteins (VLDLs). Apo-E is the principle apolipoprotein in the central nervous system, and is secreted by most organs into the plasma, playing a vital role in the binding, internalization and catabolism of triglyceride-rich lipoprotein constituents. Apo-E acts as a ligand for both the specific apo-E receptor (chylomicron remnant) of hepatic tissues, and the apoB,E (LDL) receptor. Three isoforms of Apo-E have been identified, ApoE2, E3 and E4, and have been linked with various disorders. ApoE2 has been shown to bind LPL receptors with low affinity, resulting in increased plasma cholesterol and triglyceride levels, and thereby an increased risk in cardiovascular disorders. ApoE4 is a high risk factor for Alzheimers disease (Sanan *et al.* 1994), and in particular late onset Alzheimer disease 2 (AD2), whilst ApoE3 is the most common isoform, and considered the normal/natural Apo-E genotype. Mouse anti Human Apolipoprotein E antibody, clone WUE-4 has been shown to inhibit Apo-E mediated binding of lipoproteins to the apoB,E cell receptor (Krul *et al.* 1998).
Western Blotting	MCA5639 detects a major band of approximately 34-36kDa in human liver cell lysates.
References	1. Davis, R.W. *et al.* (1991) Lipoproteins in pinnipeds: analysis of a high molecular weight form of apolipoprotein E. J Lipid Res. 32 (6): 1013-23. 2. Fagan, A.M. *et al.* (2004) ApoAI deficiency results in marked reductions in plasma

cholesterol but no alterations in amyloid-beta pathology in a mouse model of Alzheimer's disease-like cerebral amyloidosis. Am J Pathol. 165: 1413-22.
3. Fryer, J.D. *et al.* (2005) The low density lipoprotein receptor regulates the level of central nervous system human and murine apolipoprotein E but does not modify amyloid plaque pathology in PDAPP mice. J Biol Chem. 280 (27): 25754-9.
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6. Fan, J. *et al.* (2011) An ABCA1-independent pathway for recycling a poorly lipidated 8.1 nm apolipoprotein E particle from glia. J Lipid Res. 52: 1605-16.
7. Youmans, K.L. *et al.* (2011) Amyloid-β42 alters apolipoprotein E solubility in brains of mice with five familial AD mutations. J Neurosci Methods. 196: 51-9.
8. Kim, J. *et al.* (2012) Anti-apoE immunotherapy inhibits amyloid accumulation in a transgenic mouse model of Aβ amyloidosis. J Exp Med. 209: 2149-56.
9. Wildsmith KR *et al.* (2012) *In vivo* human apolipoprotein E isoform fractional turnover rates in the CNS. PLoS One. 7 (6): e38013.
10. Jiang, J. *et al.* (2012) Hepatitis C virus attachment mediated by apolipoprotein E binding to cell surface heparan sulfate. J Virol. 86: 7256-67.
11. Lee, C.Y. *et al.* (2012) Apolipoprotein E promotes β-amyloid trafficking and degradation by modulating microglial cholesterol levels. J Biol Chem. 287: 2032-44.
12. Jiang, J. *et al.* (2013) Apolipoprotein e mediates attachment of clinical hepatitis C virus to hepatocytes by binding to cell surface heparan sulfate proteoglycan receptors. PLoS One. 8: e67982.
13. Fu,Y. *et al.* (2016) Apolipoprotein E lipoprotein particles inhibit amyloid-β uptake through cell surface heparan sulphate proteoglycan. Mol Neurodegener. 11 (1): 37.

Storage	This product is shipped at ambient temperature. It is recommended to aliquot and store at -20°C on receipt. When thawed, aliquot the sample as needed. Keep aliquots at 2-8°C for short term use (up to 4 weeks) and store the remaining aliquots at -20°C. Avoid repeated freezing and thawing as this may denature the antibody. Storage in frost-free freezers is not recommended.
Guarantee	12 months from date of despatch
Health And Safety Information	Material Safety Datasheet documentation #10040 available at: https://www.bio-rad-antibodies.com/SDS/MCA5639
Regulatory	For research purposes only

Related Products

Recommended Secondary Antibodies

Goat Anti Mouse IgG IgA IgM (STAR87...)	HRP
Goat Anti Mouse IgG (STAR70...)	FITC
Goat Anti Mouse IgG (STAR77...)	HRP

Goat Anti Mouse IgG (STAR76...)	RPE
Rabbit Anti Mouse IgG (STAR12...)	RPE
Rabbit Anti Mouse IgG (STAR13...)	HRP
Rabbit Anti Mouse IgG (STAR9...)	FITC
Goat Anti Mouse IgG (Fc) (STAR120...)	FITC, HRP
Goat Anti Mouse IgG (H/L) (STAR117...)	Alk. Phos., DyLight®488, DyLight®550, DyLight®650, DyLight®680, DyLight®800, FITC, HRP

Recommended Negative Controls

MOUSE IgG1 NEGATIVE CONTROL (MCA928)

Product inquiries: www.bio-rad-antibodies.com/technical-support

To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets

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