

PRODUCT INFORMATION

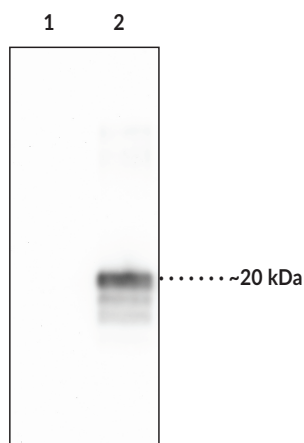


Citrullinated Myelin Basic Protein (R122) Monoclonal Antibody (Clone 1H1) Item No. 33910

Overview and Properties

Contents:	This vial contains 25 µg of protein G affinity-purified monoclonal antibody.
Synonyms:	citMBP, Citrullinated Myelin A1 Protein, Citrullinated Myelin Membrane Encephalitogenic Protein, Myelin A1 Protein, Myelin Membrane Encephalitogenic Protein
Immunogen:	Peptide from the C-terminal region of human myelin basic protein (isoform 5) with citrulline at R122
Cross Reactivity:	(+) Citrullinated myelin basic protein (R122); (-) Native myelin basic protein
Species Reactivity:	(+) Human, mouse; other species not tested
Form:	Liquid
Storage:	4°C (as supplied)
Stability:	≥1 year
Storage Buffer:	0.1 M Tris-glycine, pH 7.4, with 150 mM sodium chloride and 0.05% sodium azide
Clone:	1H1
Host:	Mouse
Isotype:	IgG1
Applications:	ELISA, Immunohistochemistry (IHC), and Western blot (WB); The optimal working concentration/dilution should be determined empirically.

Image



Lane 1: Myelin Basic Protein (human brain derived) (200 ng)
Lane 2: PAD2 Citrullinated Myelin Basic Protein (human brain derived) (200 ng)

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Citrullinated myelin basic protein (citMBP) is a citrullinated form of MBP, a protein that is integral to myelin stability in the CNS.¹ MBP contains 19 arginine residues that can be citrullinated by peptidylarginine deiminases (PADs), decreasing the positive charge of MBP.^{1,2} The loss of positive charge disrupts MBP-lipid interactions, leading to myelin destabilization and loss and increases its susceptibility for degradation. MBP is degraded by the myelin-associated protease cathepsin D, which leads to exposure and release of immunodominant epitopes.^{1,3} The percentage of MBP that is citrullinated is increased in the postmortem brain from patients with multiple sclerosis (MS), with an even greater percentage citrullinated in Marburg disease, a more severe form of MS.¹ citMBP isolated from patients with multiple sclerosis (MS) is degraded by cathepsin D at a higher rate than MBP isolated from healthy controls.^{1,3} Cayman's Citrullinated Myelin Basic Protein (R122) Monoclonal Antibody (Clone 1H1) can be used for ELISA, immunohistochemistry (IHC), and Western blot applications. The antibody recognizes citMBP from human and mouse samples and was generated using a peptide immunogen containing citrulline at R122 (human myelin basic protein sequence, isoform 5).

References

1. Yang, L., Tan, D., and Piao, H. Myelin basic protein citrullination in multiple sclerosis: A potential therapeutic target for the pathology. *Neurochem. Res.* **41(8)**, 1845-1856 (2016).
2. Mastronardi, F.G. and Moscarello, M.A. Molecules affecting myelin stability: A novel hypothesis regarding the pathogenesis of multiple sclerosis. *J. Neurosci. Res.* **80(3)**, 301-308 (2005).
3. Cao, L., Goodin, R., Wood, D., *et al.* Rapid release and unusual stability of immunodominant peptide 45-89 from citrullinated myelin basic protein. *Biochemistry* **38(19)**, 6157-6163 (1999).

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