

# PRODUCT INFORMATION



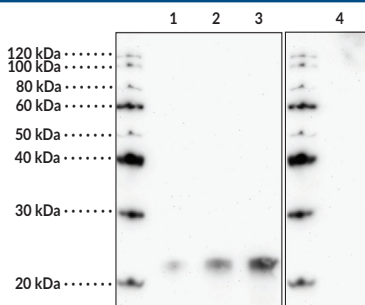
## Citrullinated Myelin Basic Protein Polyclonal Antibody

Item No. 26742

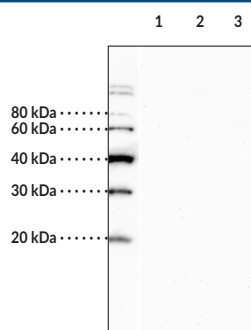
### Overview and Properties

**Contents:** This vial contains 500 µl of peptide affinity-purified polyclonal antibody.  
**Synonyms:** citMBP, Citrullinated Myelin A1 Protein, Citrullinated Myelin Membrane Encephalitogenic Protein, Myelin A1 Protein, Myelin Membrane Encephalitogenic Protein  
**Immunogen:** Synthetic peptide from the internal region of human myelin basic protein (isoform 5) with citrullines at R122 and R130  
**Cross Reactivity:** (+) Citrullinated myelin basic protein; (-) Carbamylated proteins, Native myelin Basic protein, Other citrullinated proteins  
**Species Reactivity:** (+) Human; other species not tested  
**Uniprot No.:** P02686  
**Form:** Liquid  
**Storage:** -20°C (as supplied)  
**Stability:** ≥3 years  
**Storage Buffer:** PBS, pH 7.2, with 50% glycerol and 0.02% sodium azide  
**Host:** Rabbit  
**Applications:** ELISA and Western blot (WB); the recommended starting dilution for ELISA and WB is 1:200. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

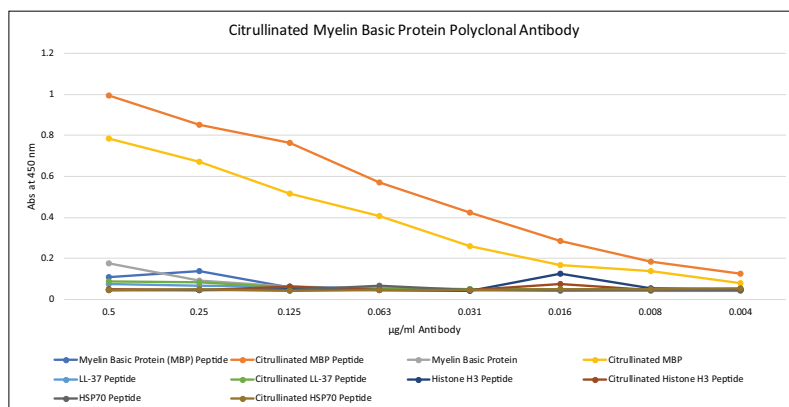
### Images



Lane 1: Citrullinated Myelin Basic Protein (25 ng)  
Lane 2: Citrullinated Myelin Basic Protein (50 ng)  
Lane 3: Citrullinated Myelin Basic Protein (100 ng)  
Lane 4: Myelin Basic Protein (100 ng)



Lane 1: Carbamylated α-Enolase (200 ng)  
Lane 2: Carbamylated Vimentin (200 ng)  
Lane 3: Citrullinated Fibrinogen (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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**CAYMAN CHEMICAL**  
1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA  
PHONE: [800] 364-9897  
[734] 971-3335  
FAX: [734] 971-3640  
CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM

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## Description

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Citrullinated myelin basic protein (citMBP) is a citrullinated form of MBP, a protein that is integral to myelin stability in the CNS.<sup>1</sup> MBP contains 19 arginine residues that can be citrullinated by peptidylarginine deiminases (PADs), decreasing the positive charge of MBP.<sup>1,2</sup> 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.<sup>1,3</sup> 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.<sup>1</sup> citMBP isolated from patients with multiple sclerosis (MS) is degraded by cathepsin D at a higher rate than MBP isolated from healthy controls.<sup>1,3</sup> Cayman's Citrullinated Myelin Basic Protein Polyclonal Antibody can be used for Western blot and ELISA applications. The antibody recognizes citMBP at 21 kDa from human samples, and was generated using a peptide immunogen containing citrullines at R122 and R130 (human myelin basic protein sequence, isoform 5).

## References

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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).

CAYMAN CHEMICAL  
1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA  
PHONE: [800] 364-9897  
[734] 971-3335  
FAX: [734] 971-3640  
CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM