

# PRODUCT INFORMATION



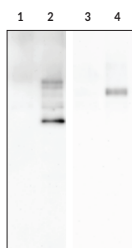
## Anti-Citrulline Monoclonal Antibody (Clone 1D9)

Item No. 30773

### Overview and Properties

<b>Contents:</b>	This vial contains 100 µg of protein G-purified monoclonal antibody.
<b>Synonym:</b>	Peptidyl-citrulline
<b>Immunogen:</b>	Citrulline-containing peptide conjugated to keyhole limpet hemocyanin
<b>Cross Reactivity:</b>	(+) Citrullinated proteins; (-) Native proteins
<b>Species Reactivity:</b>	(+) Species independent
<b>Form:</b>	Liquid
<b>Storage:</b>	-20°C (as supplied)
<b>Stability:</b>	≥1 year
<b>Storage Buffer:</b>	PBS, pH 7.2, with 50% glycerol and 0.02% sodium azide
<b>Clone:</b>	1D9
<b>Host:</b>	Mouse
<b>Isotype:</b>	IgG2b
<b>Applications:</b>	ELISA, Immunohistochemistry (IHC), and Immunoprecipitation (IP); the recommended starting dilution for ELISA is 1:200 and 1:100 for IHC. The recommended concentration for IP is 5-10 µg of antibody per test. Other applications were not tested, therefore optimal working concentrations/dilutions should be determined empirically.

### Images

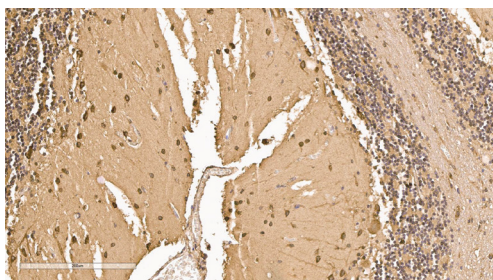


Lanes 1 and 2 were immunoprecipitated using the Anti-Citrulline Monoclonal Antibody (Clone 1D9) (Item No. 30773) and probed with a GFAP Polyclonal Antibody (Item No. 28848).

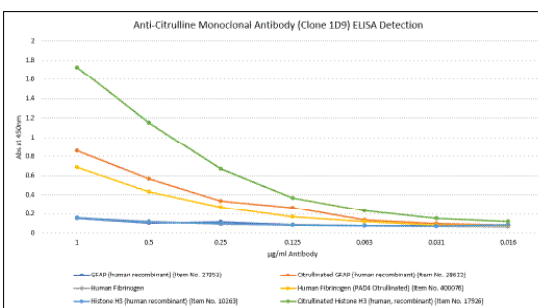
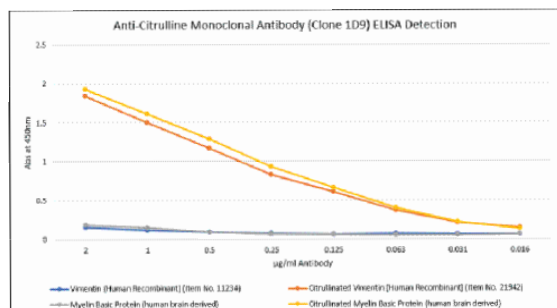
**Lane 1:** GFAP (human, recombinant) (Item No. 27353)  
**Lane 2:** Citrullinated GFAP (human, recombinant) (Item No. 28622)

Lanes 3 and 4 were immunoprecipitated using the Anti-Citrulline Monoclonal Antibody (Clone 1D9) (Item No. 30773) and probed with a Fibrinogen (α chain) Polyclonal Antibody (Item No. 18033).

**Lane 3:** Human Fibrinogen  
**Lane 4:** Human Fibrinogen (PAD4 Citrullinated) (Item No. 400076)



Immunohistochemistry analysis of formalin-fixed, paraffin-embedded (FFPE) human Alzheimer's brain, cerebellum, tissue after heat induced antigen retrieval in pH 6.0 citrate buffer. After incubation with Anti-Citrulline Monoclonal Antibody (Clone 1D9) (Item No. 30773) at a 1:200 dilution, slides were incubated with biotinylated secondary antibody, followed by alkaline phosphatase-streptavidin and chromogen (DAB).



**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**  
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## Description

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Citrulline is a noncoding amino acid that is produced by deimination of arginine through the post-translational modification citrullination.<sup>1</sup> Citrullination is catalyzed by protein arginine deiminases (PADs) that convert positively charged arginine to electrically neutral citrulline, decreasing the isoelectric point of the protein, altering the native protein structure, and influencing protein ionic interactions.<sup>2</sup> Protein citrullination has roles in many physiological and pathological processes, including autoimmunity, cancer, and neurodegenerative disorders.<sup>3</sup> Citrullination of arginine 26 on histone H3 by PAD2 (Item No. 10785) displaces histone H3 from chromatin, resulting in chromatin decondensation and estrogen receptor  $\alpha$  (ER $\alpha$ ) transcriptional activation in a reporter assay.<sup>4</sup> Citrullinated histones are also a component of neutrophil extracellular traps (NETs), a network of decondensed DNA and intracellular proteins secreted by neutrophils as a pathogen defense mechanism that is also a source of citrullinated autoantigens.<sup>5</sup> Increased levels of antibodies to citrullinated protein antigens (ACPAs) are associated with increased disease severity in patients with rheumatoid arthritis.<sup>6</sup> Plasma levels of citrullinated histone H3 are increased in patients with advanced cancer, and citrullinated glial fibrillary acidic protein (citGFAP; Item No. 28622) has been found in postmortem hippocampus from patients with Alzheimer's disease.<sup>7,8</sup> Cayman's Anti-Citrulline Monoclonal Antibody (Clone 1D9) can be used for ELISA, immunohistochemistry (IHC), and immunoprecipitation (IP) applications.

## References

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