

# PRODUCT INFORMATION

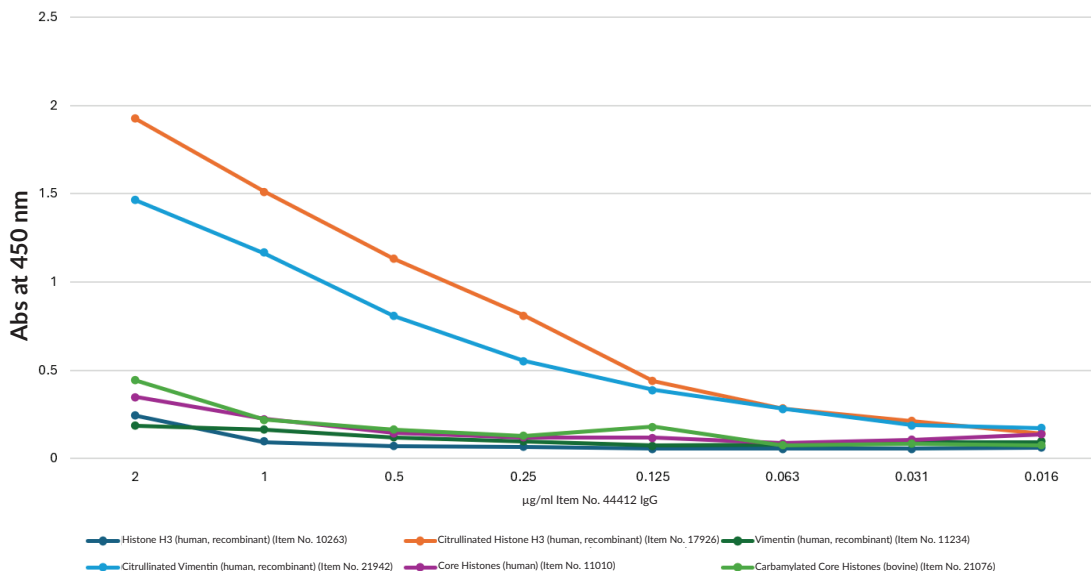
## Anti-Citrulline Recombinant Monoclonal Antibody (Clone 1D9) (Low Endotoxin) Item No. 44412

### Overview and Properties

|                            |                                                                                                                                                                                                                             |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Contents:</b>           | This vial contains 100 µg of protein A purified IgG antibody.                                                                                                                                                               |
| <b>Synonyms:</b>           | Citrullinated Protein, Pan-citrulline, Peptidyl-citrulline                                                                                                                                                                  |
| <b>Preparation:</b>        | This antibody, which contains a mouse IgG isoform, was produced as a recombinant protein expressed in CHO cells using an engineered construct developed based on the Anti-Citrulline Monoclonal Antibody (Clone 1D9)        |
| <b>Cross Reactivity:</b>   | (+) Citrullinated proteins and peptides, some carbamylated proteins; (-) Native proteins                                                                                                                                    |
| <b>Species Reactivity:</b> | Species Independent                                                                                                                                                                                                         |
| <b>Form:</b>               | Liquid                                                                                                                                                                                                                      |
| <b>Storage:</b>            | -20°C (as supplied)                                                                                                                                                                                                         |
| <b>Stability:</b>          | ≥3 years                                                                                                                                                                                                                    |
| <b>Storage Buffer:</b>     | PBS, pH 7.2                                                                                                                                                                                                                 |
| <b>Clone:</b>              | 1D9                                                                                                                                                                                                                         |
| <b>Host:</b>               | CHO cells                                                                                                                                                                                                                   |
| <b>Isotype:</b>            | IgG2bk                                                                                                                                                                                                                      |
| <b>Applications:</b>       | ELISA and Western Blot (WB); the recommended starting dilution is 1:200 for ELISA and 1:1,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically |

### Images

#### Anti-Citrulline Recombinant Monoclonal Antibody (Clone 1D9) (Low Endotoxin) ELISA Detection



#### 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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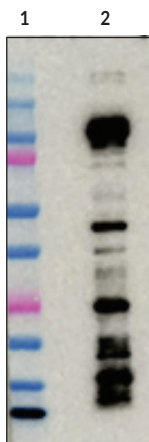
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Lane 1: HL-60 cells (10  $\mu$ g)  
Lane 2: Citrullinated HL-60 cells (10  $\mu$ g)

HL-60 cells were treated with recombinant PAD4 (human, recombinant) (Item No. 10500), lysed, and tested by WB using Cayman's Anti-Citrulline Recombinant Monoclonal Antibody (Clone 1D9) (Low Endotoxin) (Item No. 44412) at 1:1,000 and Cayman's Goat Anti-Mouse IgG HRP (Item No. 10004302) secondary antibody at 1:10,000.

## Description

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>6,7</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>8,9</sup> Cayman's Anti-Citrulline Recombinant Monoclonal Antibody (Clone 1D9) (Low Endotoxin) can be used for ELISA and Western blot (WB) applications and contains  $\leq 2$  EU/mg endotoxin.

## References

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