## **PRODUCT** INFORMATION



DNA Monoclonal Antibody (Clone 4E9)

Item No. 30185

## **Overview and Properties**

Contents:	This vial contains 100 $\mu$ g of protein G-purified monoclonal antibody.
Synonyms:	DNA Antibody, ss/dsDNA Monoclonal Antibody
Cross Reactivity:	(+) Single- and double-stranded DNA, nuclei; (-) Reduced protein lysate, histone
<b>Species Reactivity:</b>	(+) Human and bovine DNA; other species not tested
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥3 years
Storage Buffer:	PBS, pH 7.2, with 50% glycerol and 0.02% sodium azide
Clone:	4E9
Host:	Mouse
Isotype:	lgG1
Applications:	Immunohistochemistry (IHC), immunofluorescence (IF), and ELISA; the recommended starting concentration for IHC is 5 $\mu$ g/ml and 2 $\mu$ g/ml for ELISA. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

#### Images



Immunohistochemistry analysis of formalin-fixed, parafin-embedded (FFPE) human spleen tissue after heat-induced antigen retrieval in pH 6.0 citrate buffer. After incubation with DNA Monoclonal Antibody (Clone 4E9) (Item No. 30185) at a 1:200 dilution (5  $\mu$ g/ml), slides were incubated with biotinylated secondary antibody, followed by alkaline phosphatase-streptavidin and chromogen (DAB).



Primary neutrophils induced with 100 nM PMA to produce neutrophil extracellular traps (NETs) were fixed with 3.7% PFA and blocked with 5% normal goat serum. Cells were probed with a mouse IgG1 isotype control (A) or the DNA Monoclonal Antibody (Clone 4E9) (Item No. 30185) at a 1:200 dilution (B) followed by Goat Anti-Mouse (IgG+IgM) FITC secondary antibody (Item No. 10006617). Cell nuclei were stained with DAPI.



Immunohistochemistry analysis of formalin-fixed, paraffin-embedded (FFPE) human spleen after heat induced antigen retrieval in pH 6.0 citrate buffer. After incubation with the DNA Monoclonal Antibody (Clone 4E9) (Item No. 30185) at a 1:200 dilution, slides were incubated with a goat anti-mouse FITC secondary antibody and DAPI.

#### 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 <u>must</u> review the <u>complete</u> 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.

Copyright Cayman Chemical Company, 09/12/2024

#### 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

# **PRODUCT** INFORMATION



### Description

Activated neutrophils produce neutrophil extracellular traps (NETs), antimicrobial snares that are comprised of granular and cytoplasmic proteins, as well as decondensed nuclear DNA associated with histone proteins.<sup>1</sup> NET degradation is impaired in patients with systemic lupus erythematosus (SLE), allowing for production of autoantibodies against NET components, including dsDNA. The NZBWF1 mouse model of SLE similarly produces autoantibodies against chromatin, dsDNA, and ssDNA.<sup>2,3</sup> Cayman's DNA Monoclonal Antibody (Clone 4E9) was developed by fusing the spleen of a non-immunized NZBWF1 mouse with a mouse myeloma cell line and can be used for immunohistochemistry (IHC), immunofluorescence (IF), and ELISA applications. The antibody recognizes ssDNA and dsDNA, including nuclear DNA, from human and bovine samples.

#### References

- 1. Yu, Y. and Su, K. Neutrophil extracellular traps and systemic lupus erythematosus. *J. Clin. Cell. Immunol.* **4(2)**, 139 (2013).
- van Bavel, C.C., Dieker, J.W., Tamboer, W.P., *et al.* Lupus-derived monoclonal autoantibodies against apoptotic chromatin recognize acetylated conformational epitopes. *Mol. Immunol.* 48(1-3), 245-256 (2010).
- 3. Wu, W.-M., Lin, B.-F., Su, Y.-C., et al. Tamoxifen decreases renal inflammation and alleviates disease severity in autoimmune NZB/W F1 mice. Scand. J. Immunol. 52(4), 393-400 (2000).

## 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