

PRODUCT INFORMATION



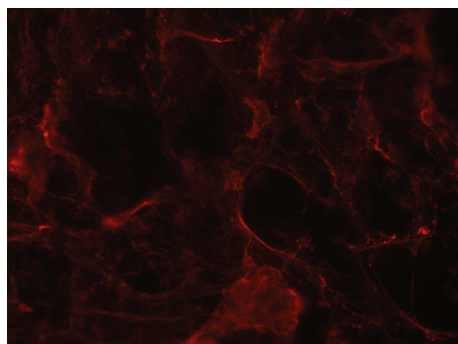
dsDNA Monoclonal Antibody (Clone 2C4)

Item No. 15635

Overview and Properties

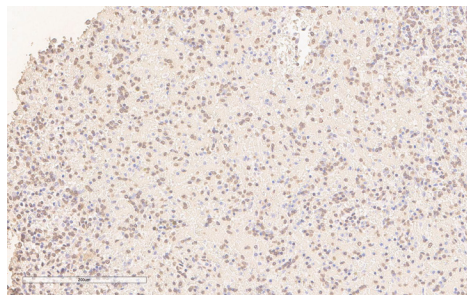
Contents:	This vial contains 200 µg of ammonium sulfate purified monoclonal antibody
Synonyms:	double-stranded DNA
Species Reactivity:	(+) Human and mouse; other species not tested
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥3 years
Storage Buffer:	PBS, pH 7.2, with 50% glycerol, 0.1% BSA, and 0.02% sodium azide
Clone:	2C4
Host:	Mouse
Isotype:	IgM
Applications:	ELISA, Flow Cytometry (FC), Immunohistochemistry (IHC), and Immunofluorescence (IF); the recommended starting dilution for ELISA is 1:1,000 and 1:50 for FC and IF. The recommended starting concentration for IHC is 5 µg/ml. Other applications were not attempted and therefore optimal working dilutions should be determined empirically.

Images



Human peripheral blood neutrophils were isolated by density gradient separation and incubated for four hours on 24-well plates in the presence of PMA or A-23187. The resulting extracellular traps were incubated with a 1:50 dilution of the dsDNA Monoclonal Antibody (Clone 2C4), followed by incubation with PE labeled goat anti-mouse IgG (H+L)+IgM secondary antibody and fixation with 1% formaldehyde (washed between steps).

Refer to Cayman's Neutrophil Extracellular Trap (NET) Assay Kit booklet (Item No. 601010) for more information regarding protocol.



Immunohistochemistry (IHC) analysis of formalin-fixed, paraffin-embedded (FFPE) human spleen tissue after heat-induced antigen retrieval in pH 6.0 citrate buffer. After incubation with Cayman's dsDNA Monoclonal Antibody (Clone 2C4) (Item No. 15635), at a 1:200 dilution (5 µg/ml), 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

In response to stimuli, neutrophils have the ability to release net-like structures containing nuclear DNA, de-condensed histones, and antimicrobial peptides.¹ These neutrophil extracellular traps (NETs) have the ability to contact and kill pathogens including fungi, bacteria, and protozoa; they are then rapidly cleared by the immune system.²⁻⁴ However, in aged NZBWF1 mice and human lupus patients, the clearance is delayed, allowing formation of antibodies to these NET components. Cayman's dsDNA Monoclonal Antibody was developed by fusing the spleen of a non-immunized NZBWF1 mouse with a mouse myeloma cell line. It detects dsDNA by ELISA and can be used to stain NETs by IF.

References

1. Brinkmann, V., Reichard, U., Goosmann, C., *et al.* Neutrophil extracellular traps kill bacteria. *Science* **303(5663)**, 1532-1535 (2004).
2. Urban, C.F., Ermert, D., Schmid, M., *et al.* Neutrophil extracellular traps contain calprotectin, a cytosolic protein complex involved in host defense against *Candida albicans*. *PLoS Pathog.* **5(10)**, 1-18 (2009).
3. Beiter, K., Wartha, F., Albiger, B., *et al.* An endonuclease allows *Streptococcus pneumoniae* to escape from neutrophil extracellular traps. *Curr. Biol.* **16(4)**, 401-407 (2006).
4. Guimarães-Costa, A.B., Nascimento, M.T., Froment, G.S., *et al.* *Leishmania amazonensis* promastigotes induce and are killed by neutrophil extracellular traps. *Proc. Natl. Acad. Sci. USA* **106(16)**, 6748-6753 (2009).

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