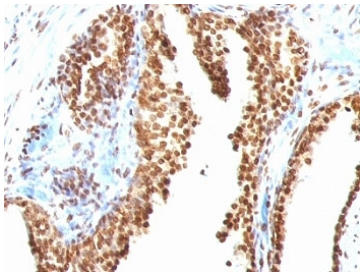
dsDNA Antibody / Double Stranded DNA [clone AE-2] (V3099)

Catalog No.	Formulation	Size
V3099-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3099-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3099SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V3099IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

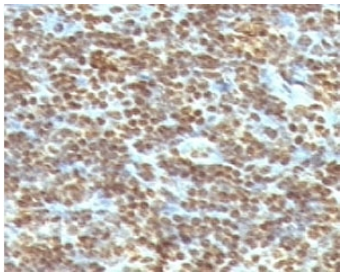
Citations (2)

Bulk quote request

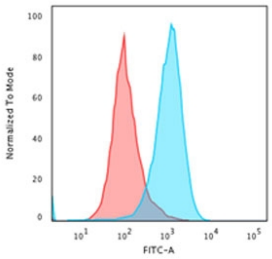
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG3, kappa
Clone Name	AE-2
Purity	Protein G affinity chromatography
UniProt	Not Known
Localization	Nuclear
Applications	Flow Cytometry: 1-2ug/million cells in 0.1ml Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT (1)
Limitations	This dsDNA antibody is available for research use only.



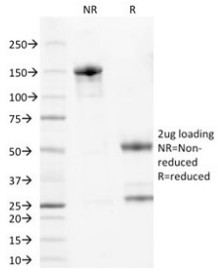
IHC staining of FFPE human colon carcinoma with dsDNA antibody (clone AE-2). HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 10-20 min and allow to cool before testing.



IHC staining of FFPE human tonsil with dsDNA antibody (clone AE-2). HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 10-20 min and allow to cool before testing.



Flow cytometry testing of fixed and permeabilized human Jurkat cells with dsDNA antibody (clone AE-2); Red=isotype control, Blue= dsDNA antibody.



SDS-PAGE analysis of purified, BSA-free dsDNA antibody (clone AE-2) as confirmation of integrity and purity.

Description

dsDNA antibody targets double stranded DNA, a fundamental molecular structure that carries genetic information and serves as the template for replication, transcription, and repair. Double stranded DNA is localized primarily within the nucleus, where it is packaged into chromatin and organized into chromosomes, but it can also be detected in extranuclear contexts under specific biological conditions. Clone AE-2 recognizes double stranded DNA independently of sequence, enabling detection of DNA-rich structures rather than gene-specific targets. This property makes dsDNA antibodies valuable tools for studying nuclear integrity, chromatin organization, and DNA-associated cellular processes.

Functionally, double stranded DNA is central to virtually all aspects of cellular biology, including cell cycle progression, genome maintenance, and inheritance of genetic material. Detection of dsDNA is widely used as a proxy for nuclear content and chromatin distribution in fixed cells and tissue sections. In addition to normal nuclear DNA, dsDNA antibodies are commonly applied in studies of DNA damage, apoptosis, and immune responses, where changes in DNA accessibility or localization can occur. A dsDNA antibody supports investigations into nuclear structure and DNA-associated cellular states.

dsDNA antibodies are also frequently used in immunology and pathology research. Autoantibodies against double stranded DNA are a hallmark of certain autoimmune conditions, and experimental detection of dsDNA provides a useful reference point for nuclear material in complex samples. In cell biology, dsDNA staining helps distinguish nuclear regions from cytoplasmic compartments and can be combined with protein-specific antibodies to assess spatial relationships between DNA and nuclear or chromatin-associated proteins. Clone AE-2 enables consistent recognition of dsDNA in research applications that require reliable nuclear labeling.

From a biological and disease-relevance perspective, analysis of double stranded DNA distribution is important in studies of cell proliferation, programmed cell death, and genomic instability. Altered DNA morphology or localization can reflect underlying cellular stress, damage responses, or pathological transformation. dsDNA antibodies are therefore widely

employed in cancer research, toxicology studies, and investigations of DNA repair pathways to provide contextual information about nuclear integrity and chromatin state.

At the molecular level, double stranded DNA consists of two complementary nucleotide strands arranged in a double helix stabilized by base pairing and backbone interactions. Clone AE-2 is designed to recognize this structural configuration rather than specific nucleotide sequences, allowing broad detection of dsDNA across species and sample types. A dsDNA antibody supports research applications focused on nuclear visualization, chromatin organization, and DNA-associated biological processes, with NSJ Bioreagents providing reagents intended for research use.

Application Notes

Optimal dilution of the dsDNA antibody should be determined by the researcher.

1. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

Immunogen

Nuclei of Burkitt's cells were used as the immunogen for the dsDNA antibody.

Storage

Store the dsDNA antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

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