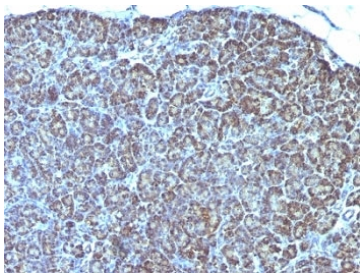
Anti-Mitochondrial Antibody [clone AE-1] (V3111)

Catalog No.	Formulation	Size
V3111-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3111-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3111SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V3111IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

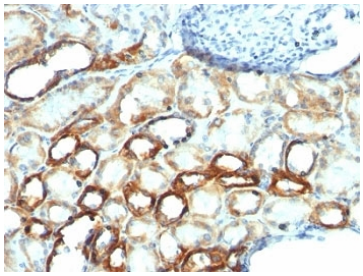
Citations (5)

Bulk quote request

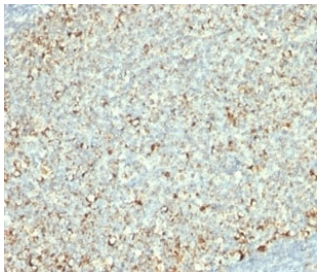
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	AE-1
Purity	Protein G affinity chromatography
UniProt	Not Known
Localization	Cytoplasmic (Mitochondria)
Applications	ELISA (order BSA/sodium azide-free format for coating) Immunofluorescence: 0.5-1ug/ml Western blot: 0.25-0.5ug/ml Immunohistochemistry (FFPE): 0.5-1ug/ml for 30 min at RT
Limitations	This anti-Mitochondrial antibody is available for research use only.



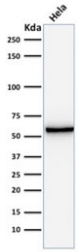
IHC: Formalin-fixed, paraffin-embedded human pancreas stained with anti-Mitochondrial antibody (clone AE-1).



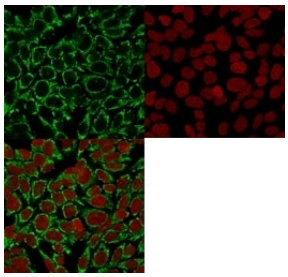
IHC: Formalin-fixed, paraffin-embedded human tonsil stained with anti-Mitochondrial antibody (clone AE-1).



IHC: Formalin-fixed, paraffin-embedded human tonsil stained with anti-Mitochondrial antibody (clone AE-1).



Western blot testing of human HeLa cell lysate with anti-Mitochondrial antibody (clone AE-1).



Immunofluorescent staining of human HeLa cells with anti-Mitochondrial antibody (clone AE-1, green) and Reddot nuclear stain (red).

Description

Anti-Mitochondrial antibody (clone AE-1) detects a mitochondrial membrane-associated protein that serves as a reliable marker for mitochondrial content, structure, and distribution within cells. Mitochondria are dynamic organelles essential for oxidative phosphorylation, energy transfer, and the coordination of numerous biosynthetic and signaling pathways. Their abundance and organization reflect the metabolic demands placed upon a cell, making them a focal point of research into metabolism, stress responses, and cell death regulation.

These organelles maintain a unique double-membrane architecture that separates oxidative processes within the matrix from cytosolic signaling pathways. The electron transport chain embedded in the inner membrane drives ATP formation

through chemiosmotic coupling, while the outer membrane allows selective metabolite exchange and communication with the cytosol. Mitochondria continually adjust through fission and fusion, processes that shape network connectivity and ensure removal of damaged components. The antigen recognized by clone AE-1 provides a strong and consistent labeling pattern for mitochondria, enabling researchers to assess changes in morphology and distribution across variable experimental conditions.

Disruption of mitochondrial balance contributes to many pathological states, including neurodegeneration, cancer, and metabolic disease. Tracking mitochondrial organization using immunodetection helps correlate structural integrity with functional performance. Clone AE-1 offers dependable visualization of these organelles, supporting a wide variety of research applications where mitochondrial pattern and abundance serve as key readouts for cell health and metabolic adaptation.

An antibody that targets mitochondrial proteins can be used in immunohistochemistry, western blot, or other research assays to examine mitochondrial presence and organization. These general methodologies are employed broadly in cell and molecular biology to assess organelle integrity, energy regulation, and intracellular signaling. The use of a well-characterized mitochondrial marker such as clone AE-1 aids in exploring the spatial and structural aspects of mitochondrial behavior under both baseline and stress-induced conditions.

NSJ Bioreagents provides Anti-Mitochondrial antibody (clone AE-1) validated for use in relevant research applications supporting investigations into mitochondrial dynamics, bioenergetic function, and cellular organization.

Application Notes

Optimal dilution of the anti-Mitochondrial antibody should be determined by the researcher.

1. Staining of formalin-fixed tissues requires boiling tissue sections in 10mM Tris with 1mM EDTA, pH 9.0, for 10-20 min followed by cooling at RT for 20 min.
2. 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

A semi-purified mitochondrial preparation was used as the immunogen for the anti-Mitochondrial antibody.

Storage

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

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