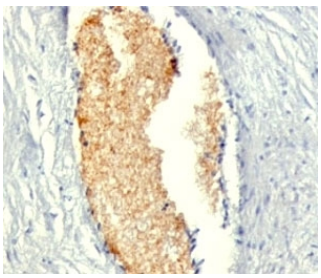
# AMPD3 Antibody [clone AMPD3/901] (V2540)

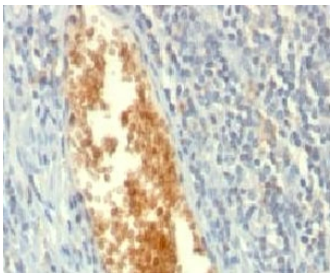
| Catalog No. | Formulation | Size |
|---|---|---|
| V2540-100UG | 0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide | 100 ug |
| V2540-20UG | 0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide | 20 ug |
| V2540SAF-100UG | 1 mg/ml in 1X PBS; BSA free, sodium azide free | 100 ug |
| V2540IHC-7ML | Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only* | 7 ml |

## Bulk quote request

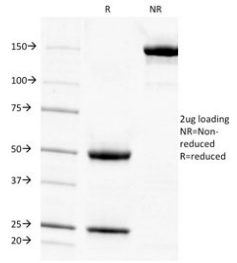
| | |
|---|---|
| **Availability** | 1-3 business days |
| **Species Reactivity** | Human |
| **Format** | Purified |
| **Host** | Mouse |
| **Clonality** | Monoclonal (mouse origin) |
| **Isotype** | Mouse IgG2b, kappa |
| **Clone Name** | AMPD3/901 |
| **Purity** | Protein G affinity chromatography |
| **UniProt** | Q01432 |
| **Localization** | Cytoplasmic, membrane |
| **Applications** | Immunohistochemistry (FFPE): 2-4ug/ml for 30 min at RT |
| **Limitations** | This AMPD3 antibody is available for research use only. |



IHC: Formalin-fixed, paraffin-embedded human placenta stained with AMPD3 antibody (clone AMPD3/901).



IHC: Formalin-fixed, paraffin-embedded human tonsil stained with AMPD3 antibody (clone AMPD3/901).




SDS-PAGE analysis of purified, BSA-free AMPD3 antibody (clone AMPD3/901) as confirmation of integrity and purity.

## Description

AMPD3 antibody detects Adenosine Monophosphate Deaminase 3, an enzyme that catalyzes the deamination of adenosine monophosphate (AMP) to inosine monophosphate (IMP), regulating cellular energy balance and nucleotide metabolism. The UniProt recommended name is AMP deaminase 3 (AMPD3). This enzyme is one of three isoforms in the AMP deaminase family and is primarily expressed in erythrocytes and cardiac tissue, where it contributes to the purine nucleotide cycle and energy homeostasis.

Functionally, AMPD3 antibody identifies an approximately 787-amino-acid cytosolic enzyme that plays a crucial role in maintaining the adenylate energy charge within red blood cells. By converting AMP to IMP, AMPD3 prevents the accumulation of AMP during high energy demand, preserving ATP levels. The enzyme forms a multimeric complex and is regulated by adenine nucleotides, phosphate ions, and pH. Its activity supports efficient energy recovery during periods of metabolic stress and modulates the balance between purine degradation and salvage pathways.

The AMPD3 gene is located on chromosome 11p15.4 and produces multiple isoforms through alternative splicing. Expression is strongest in erythrocytes, heart muscle, and skeletal muscle, reflecting the high energy turnover in these tissues. In erythrocytes, AMPD3 stabilizes ATP levels and contributes to red cell survival under hypoxic conditions. The enzyme is also involved in regulating nitric oxide signaling by modulating intracellular AMP and ADP concentrations.

Pathologically, mutations or deficiencies in AMPD3 have been associated with hereditary hemolytic anemia and altered erythrocyte energy metabolism. Reduced AMPD3 activity can impair ATP regeneration, leading to erythrocyte fragility and reduced lifespan. Conversely, overactivity of AMPD3 may influence cardiac energetics and purine balance. Research using AMPD3 antibody supports studies in hematology, cardiovascular physiology, and nucleotide metabolism.

AMPD3 antibody is validated for use in relevant research applications to detect AMP deaminase 3 and study purine metabolism and erythrocyte energy regulation. NSJ Bioreagents provides AMPD3 antibody reagents optimized for biochemistry, metabolism, and hematologic research.

## Application Notes

Optimal dilution of the AMPD3 antibody should be determined by the researcher.

1. Staining of formalin-fixed tissues requires boiling tissue sections in 10mM Citrate buffer, pH 6.0, 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

Recombinant full-length human protein was used as the immunogen for the AMPD3 antibody.

## Storage

Store the AMPD3 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).


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