

ABCE1 Antibody / ATP-binding cassette sub-family E member 1 (FY12915)

Catalog No.	Formulation	Size
FY12915	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

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Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na ₂ HPO ₄ .
UniProt	P61221
Applications	ELISA : 0.1-0.5ug/ml Flow Cytometry : 1-3ug/million cells Immunofluorescence : 5ug/ml Immunohistochemistry : 2-5ug/ml Immunocytochemistry : 5ug/ml Western Blot : 0.25-0.5ug/ml
Limitations	This ABCE1 antibody is available for research use only.

Description

ABCE1 antibody detects ATP-binding cassette sub-family E member 1, an essential translation factor involved in ribosome recycling and antiviral defense. Encoded by the ABCE1 gene on chromosome 4q31.21, this highly conserved protein belongs to the ATP-binding cassette (ABC) transporter superfamily but is unique in lacking transmembrane domains. Instead, ABCE1 functions in the cytoplasm as a ribonucleoprotein-associated ATPase that promotes ribosome dissociation after translation termination, enabling efficient ribosome recycling and translation reinitiation.

Structurally, ABCE1 is a 599-amino-acid protein of approximately 68 kilodaltons composed of two nucleotide-binding domains (NBDs) and an N-terminal region containing iron-sulfur clusters critical for its activity. These clusters facilitate conformational changes required for ribosome disassembly. ABCE1 interacts with release factors (eRF1 and eRF3) and ribosomal subunits, coupling ATP hydrolysis to subunit separation. The protein is ubiquitously expressed and localized in the cytoplasm, with enrichment near polysomes.

The ABCE1 antibody is widely used in molecular biology, virology, and translational control research to study ribosome dynamics, translation termination, and antiviral mechanisms. Western blot analysis detects a 68 kilodalton band corresponding to ABCE1, while immunofluorescence shows diffuse cytoplasmic distribution associated with ribosomal clusters. This antibody enables exploration of how ATPase-driven ribosome recycling maintains translation efficiency and proteostasis.

Functionally, ABCE1 acts as a “ribosome recycling factor,” splitting 80S ribosomes into 40S and 60S subunits after peptide release. It also inhibits RNase L activation, thereby modulating innate antiviral responses. In viruses such as HIV-1, ABCE1 facilitates Gag assembly, linking translation control to viral replication. The ABCE1 gene is essential for cell viability, and its disruption leads to impaired translation and cell death. The ABCE1 antibody provides a powerful tool for studying the intersection of translation regulation, ribosome turnover, and antiviral defense. NSJ Bioreagents validates this antibody for western blotting, immunohistochemistry, and immunofluorescence, ensuring consistent and accurate detection across experimental models.

Application Notes

Optimal dilution of the ABCE1 antibody should be determined by the researcher.

Immunogen

E.coli-derived human ABCE1 recombinant protein (Position: Q141-D599) was used as the immunogen for the ABCE1 antibody.

Storage

After reconstitution, the ABCE1 antibody can be stored for up to one month at 4°C. For long-term, aliquot and store at -20°C. Avoid repeated freezing and thawing.