Human NMNAT-1 Alexa Fluor® 594-conjugated Antibody

Monoclonal Mouse IgG_{2B} Clone # 675112

Catalog Number: FAB5865T

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human NMNAT-1 in direct ELISAs.
Source	Monoclonal Mouse IgG_{2B} Clone # 675112
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*S. frugiperda* insect ovarian cell line *Sf* 21-derived recombinant human NMNAT-1 Met1-Thr279 Accession # Q9HAN9
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

Immunohistochemistry	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

NMNAT-1 is expressed in the nuclei of all human tissues, with highest expression in skeletal muscle, heart, kidney, pancreas, and brain (1). The enzyme transfers adenylate from ATP to nicotinamide ribonucleotide or nicotinate ribonucleotide to generate NAD^+ or deamido-NAD^+, and is an essential enzyme for the production of nuclear NAD^+ (2). Nuclear NAD^+ is required by poly(ADP-ribose) polymerase 1 (PARP-1), which poly-ADP-ribosylates chromatin in response to DNA strand breaks. NMNAT-1 is known to interact with PARP-1, resulting in its activation, but this interaction with PARP-1 is prevented when NMNAT-1 is phosphorylated at Ser136 (3). Nuclear NAD^+ levels are also important for the regulation of SIR2 histone deacetylases (4). A naturally occurring Ube4b/NMNAT-1 chimeric protein is directly involved in slowing the degeneration of injured neurons in mice (5). NMNAT activity is required for the activation of tiazofurin, a drug used to treat leukemia (6). Two other NMNAT enzymes are present in humans. NMNAT-2 is localized in the Golgi complex and cytoplasm, and NMNAT-3 is a mitochondrial enzyme (7).

PRODUCT SPECIFIC NOTICES

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