

KD-Validated Anti-Adenylate kinase 4 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1496

Product Information

Application	WB, FC
Primary Accession	P27144
Reactivity	Human
Clonality	Monoclonal
Isotype	Rabbit IgG
Clone Names	23GB4755
Calculated MW	25268
Gene Name	AK4
Aliases	AK4; Adenylate Kinase 4; AK3L1; AK3; Adenylate Kinase 4, Mitochondrial; Adenylate Kinase 3-Like 1; AK 4; GTP:AMP Phosphotransferase AK4, Mitochondrial; Adenylate Kinase Isoenzyme 4, Mitochondrial; Epididymis Secretory Sperm Binding Protein; Nucleoside-Triphosphate-Adenylate Kinase; Mitochondrial Adenylate Kinase-3; GTP:AMP Phosphotransferase AK4; ATP-AMP Transphosphorylase; Adenylate Kinase 3-Like; Adenylate Kinase 3; EC 2.7.4.10; EC 2.7.4.6; EC 2.7.4.3; EC 2.7.4; AK3L2
Immunogen	A synthesized peptide derived from human Adenylate kinase 4

Additional Information

Gene ID	205
Other Names	Adenylate kinase 4, mitochondrial, 2.7.4.4, 2.7.4.6, Adenylate kinase 3-like {ECO:0000255 HAMAP-Rule:MF_03170}, GTP:AMP phosphotransferase AK4 {ECO:0000255 HAMAP-Rule:MF_03170}, AK4 (HGNC:363)

Protein Information

Name	AK4 (HGNC:363)
Function	Broad-specificity mitochondrial nucleoside phosphate kinase involved in cellular nucleotide homeostasis by catalyzing nucleoside- phosphate interconversions (PubMed: 19073142 , PubMed: 19766732 , PubMed: 23416111 , PubMed: 24767988). Similar to other adenylate kinases, preferentially catalyzes the phosphorylation of the nucleoside monophosphate AMP with ATP as phosphate donor to produce ADP (PubMed: 19766732). Phosphorylates only AMP when using GTP as phosphate donor (PubMed: 19766732). In vitro, can also catalyze the phosphorylation of CMP, dAMP and dCMP and use GTP as an alternate phosphate donor (PubMed: 19766732 , PubMed: 23416111). Moreover, exhibits a diphosphate kinase activity, producing ATP, CTP, GTP, UTP, TTP, dATP, dCTP and dGTP from the corresponding diphosphate

substrates with either ATP or GTP as phosphate donors (PubMed:[23416111](#)). Plays a role in controlling cellular ATP levels by regulating phosphorylation and activation of the energy sensor protein kinase AMPK (PubMed:[24767988](#), PubMed:[26980435](#)). Plays a protective role in the cellular response to oxidative stress (PubMed:[19130895](#), PubMed:[23474458](#), PubMed:[26980435](#)).

Cellular Location

Mitochondrion matrix {ECO:0000255 | HAMAP- Rule:MF_03170, ECO:0000269 | PubMed:11485571, ECO:0000269 | PubMed:19766732, ECO:0000269 | PubMed:26980435}

Tissue Location

Highly expressed in kidney, moderately expressed in heart and liver and weakly expressed in brain

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