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KD-Validated Anti-Hexokinase 1 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI2361

Product Information

Application	WB, FC, ICC
Primary Accession	P19367
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Clone Names	23GB870
Calculated MW	102486
Gene Name	HK1
Aliases	Brain Form Hexokinase; Hexokinase Type I; Hexokinase-1; Hexokinase-A; EC 2.7.1.1; Neuropathy, Hereditary Motor And Sensory, Russe Type; Glycolytic Enzyme; Hexokinase IR; Hexokinase; EC 2.7.1; NEDVIBA; HK1-Ta; HK1-Tb; HK1-Tc; HMSNR; HXK1; NMSR; RP79; HK I; HKD; HKI; HK
Immunogen	A synthesized peptide derived from human Hexokinase 1

Additional Information

Gene ID	3098
Other Names	Hexokinase-1, 2.7.1.1, Brain form hexokinase, Hexokinase type I, HK I, Hexokinase-A, HK1 (HGNC:4922)

Protein Information

Name	HK1 (HGNC:4922)
Function	Catalyzes the phosphorylation of various hexoses, such as D- glucose, D-glucosamine, D-fructose, D-mannose and 2-deoxy-D-glucose, to hexose 6-phosphate (D-glucose 6-phosphate, D-glucosamine 6-phosphate, D-fructose 6-phosphate, D-mannose 6-phosphate and 2-deoxy-D-glucose 6- phosphate, respectively) (PubMed:1637300, PubMed:25316723, PubMed:27374331). Does not phosphorylate N-acetyl-D-glucosamine (PubMed:27374331). Mediates the initial step of glycolysis by catalyzing phosphorylation of D-glucose to D-glucose 6-phosphate (By similarity). Involved in innate immunity and inflammation by acting as a pattern recognition receptor for bacterial peptidoglycan (PubMed:27374331). When released in the cytosol, N-acetyl-D-glucosamine component of bacterial peptidoglycan inhibits the hexokinase activity of HK1 and causes its dissociation from mitochondrial outer membrane, thereby activating the NLRP3 inflammasome (PubMed:27374331).

Cellular Location	Mitochondrion outer membrane; Peripheral membrane protein. Cytoplasm, cytosol. Note=The mitochondrial-binding peptide (MBP) region promotes association with the mitochondrial outer membrane (Probable). Dissociates from the mitochondrial outer membrane following inhibition by N-acetyl-D-glucosamine, leading to relocation to the cytosol (PubMed:27374331).
Tissue Location	Isoform 2: Erythrocyte specific (Ref.6). Isoform 3: Testis-specific (PubMed:10978502). Isoform 4: Testis-specific (PubMed:10978502). {ECO:0000269|PubMed:10978502, ECO:0000269|Ref.6}