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Anti-ADA Picoband Antibody

Catalog # ABO12893

Product Information

Application	WB, IHC-P, E
Primary Accession	Q920P6
Host	Rabbit
Reactivity	Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for ADA detection. Tested with WB, IHC-P, ELISA(Cap) in Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	24165
Other Names	Adenosine deaminase, 3.5.4.4, Adenosine aminohydrolase, Ada
Calculated MW	39899
Application Details	Western blot, 0.1-0.5 □g/ml Immunohistochemistry(Paraffin-embedded Section), 0.5-1 □g/ml ELISA(Cap), 0.1-0.5 □g/ml
Subcellular Localization	Cell membrane; Peripheral membrane protein; Extracellular side. Cell junction.
Tissue Specificity	Detected in brain and liver (at protein level).
Source	Eukaryota
Contents	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na_2HPO_4, 0.05mg NaN_3.
Immunogen	E. coli-derived rat ADA recombinant protein (Position: A2-H241).
Cross Reactivity	No cross reactivity with other proteins.
Storage	At -20˚C; for one year. After r˚Constitution, at 4˚C; for one month. It˚Can also be aliquotted and stored frozen at -20˚C; for a longer time. Avoid repeated freezing and thawing.

Protein Information

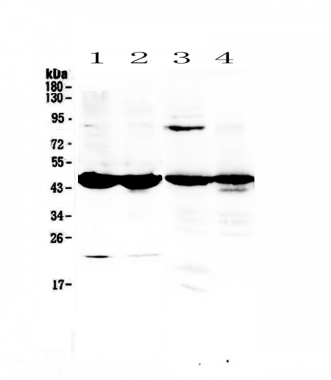
Name	Ada
Function	Catalyzes the hydrolytic deamination of adenosine and 2- deoxyadenosine (PubMed:19900420). Plays an important role in purine metabolism and in adenosine homeostasis (By similarity). Modulates signaling by extracellular adenosine, and so contributes indirectly to cellular signaling events (By similarity). Acts as a positive regulator of T-cell coactivation, by binding DPP4 (By similarity). Its interaction with DPP4 regulates lymphocyte-epithelial cell adhesion (By similarity). Enhances dendritic cell immunogenicity by affecting dendritic cell costimulatory molecule expression and cytokines and chemokines secretion (By similarity). Enhances CD4+ T-cell differentiation and proliferation (By similarity). Acts as a positive modulator of adenosine receptors ADORA1 and ADORA2A, by enhancing their ligand affinity via conformational change (By similarity). Stimulates plasminogen activation (By similarity). Plays a role in male fertility (By similarity). Plays a protective role in early postimplantation embryonic development (By similarity) (PubMed:19900420). Also responsible for the deamination of cordycepin (3'-deoxyadenosine), a fungal natural product that shows antitumor, antibacterial, antifungal, antivirus, and immune regulation properties (By similarity).
Cellular Location	Cell membrane {ECO:0000250|UniProtKB:P00813}; Peripheral membrane protein; Extracellular side. Cell junction {ECO:0000250|UniProtKB:P00813} Cytoplasmic vesicle lumen. Cytoplasm. Lysosome {ECO:0000250|UniProtKB:P00813}. Note=Colocalized with DPP4 at the cell surface. {ECO:0000250|UniProtKB:P00813}
Tissue Location	Detected in brain and liver (at protein level).

Background

Adenosine Deaminase (also known as adenosine aminohydrolase, or ADA) is an enzyme involved in purine metabolism. Primarily, ADA in humans is involved in the development and maintenance of the immune system. However, ADA association has also been observed with epithelial cell differentiation, neurotransmission, and gestation maintenance. It has also been proposed that ADA, in addition to adenosine breakdown, stimulates release of excitatory amino acids and is necessary to the coupling of A1 adenosine receptors and heterotrimeric G proteins. Adenosine deaminase deficiency leads to pulmonary fibrosis, suggesting that chronic exposure to high levels of adenosine can exacerbate inflammation responses rather than suppressing them. It has also been recognized that adenosine deaminase protein and activity is upregulated in mouse hearts that overexpress HIF-1 alpha, which in part explains the attenuated levels of adenosine in HIF-1 alpha expressing hearts during ischemic stress.

Images

Figure 1. Western blot analysis of ADA using anti-ADA antibody (ABO12893). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: mouse testis tissue lysates,Lane 2: mouse ovary tissue lysates,Lane 3: rat stomach tissue lysates,Lane 4: rat ovary tissue lysates.After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5



hour at RT. The membrane was incubated with rabbit anti-ADA antigen affinity purified polyclonal antibody (Catalog # ABO12893) at 0.5 □¼g/mL overnight at 4 □°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit with Tanon 5200 system. A specific band was detected for ADA at approximately 45KD. The expected band size for ADA is at 40KD.

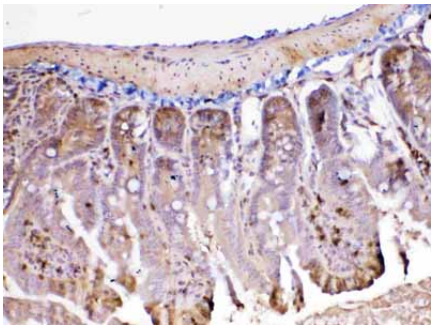


Figure 2. IHC analysis of ADA using anti-ADA antibody (ABO12893).ADA was detected in paraffin-embedded section of mouse intestine tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 □¼g/ml rabbit anti-ADA Antibody (ABO12893) overnight at 4 □°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 □°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.

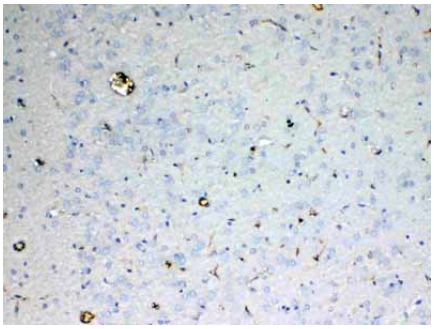


Figure 3. IHC analysis of ADA using anti-ADA antibody (ABO12893).ADA was detected in paraffin-embedded section of rat brain tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 □¼g/ml rabbit anti-ADA Antibody (ABO12893) overnight at 4 □°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 □°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.

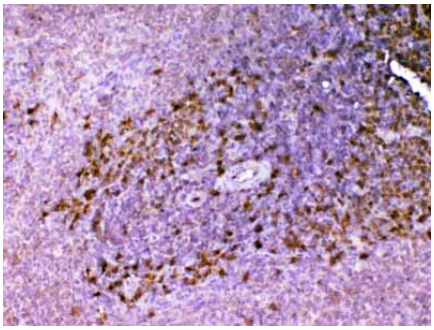


Figure 4. IHC analysis of ADA using anti-ADA antibody (ABO12893).ADA was detected in paraffin-embedded section of rat spleen tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 □¼g/ml rabbit anti-ADA Antibody (ABO12893) overnight at 4 □°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 □°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.