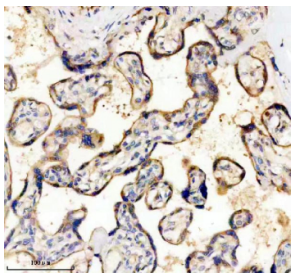
CD39 Antibody / ENTPD1 [clone 17E43] (RQ8950)

Catalog No.	Formulation	Size
RQ8950	Antibody in PBS with 0.02% sodium azide, 50% glycerol and 0.4-0.5mg/ml BSA	100 ul

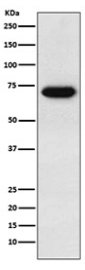
Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	1-2 weeks
Species Reactivity	Human
Format	Purified
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	17E43
Purity	Affinity purified
UniProt	P49961
Applications	Western Blot : 1:500 Immunohistochemistry (FFPE) : 1:50
Limitations	This CD39 antibody is available for research use only.



IHC staining of FFPE human placental tissue with CD39 antibody, HRP-secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Western blot testing of human placental tissue lysate with CD39 antibody. Expected molecular weight: 34-100 kDa depending on isoform and level of glycosylation.

Description

CD39 antibody is a widely used reagent for studying immune regulation, purinergic signaling, and vascular biology. The encoded protein, CD39 (also known as ectonucleoside triphosphate diphosphohydrolase 1 or ENTPD1), is an ectoenzyme expressed on the surface of endothelial cells, immune cells, and platelets. CD39 hydrolyzes extracellular ATP and ADP into AMP, which can then be converted into adenosine by CD73. This ATP-adenosine pathway regulates inflammation, thrombosis, and tissue homeostasis by balancing proinflammatory and immunosuppressive signals.

In the immune system, CD39 plays an important role in controlling T cell and regulatory T cell activity. By reducing extracellular ATP levels and increasing adenosine production, CD39 dampens inflammatory responses and promotes immune tolerance. High CD39 expression on regulatory T cells contributes to their immunosuppressive capacity, making CD39 a focus of interest in autoimmune disease, transplantation, and cancer immunology. In the vascular system, CD39 helps prevent platelet aggregation and thrombosis by degrading platelet-activating nucleotides, thereby maintaining vascular health.

Dysregulation of CD39 expression or activity has been implicated in diverse diseases. Increased CD39 activity has been observed in tumors, where it contributes to immune evasion by creating an adenosine-rich, immunosuppressive microenvironment. Conversely, reduced CD39 function has been linked to heightened inflammation in autoimmune diseases and transplant rejection. These associations underscore CD39 as both a biomarker and a therapeutic target across multiple areas of biomedical research.

At the molecular level, CD39 is a transmembrane glycoprotein with two transmembrane domains and large extracellular loops that contain conserved apyrase motifs responsible for nucleotide hydrolysis. Its enzymatic activity is dependent on divalent cations such as calcium and magnesium. By regulating extracellular nucleotide concentrations, CD39 serves as a critical checkpoint in purinergic signaling pathways that influence vascular tone, immune cell communication, and tissue repair.

The CD39 antibody is commonly used in flow cytometry, western blotting, immunohistochemistry, and immunofluorescence to detect protein expression and distribution. These applications are valuable for research in immunology, oncology, and cardiovascular biology. For scientists investigating immune regulation, thrombosis, or purinergic signaling, the CD39 antibody provides a specific and dependable detection tool. NSJ Bioreagents supplies validated antibodies designed to ensure reproducibility and accuracy in advanced molecular studies.

Application Notes

Optimal dilution of the CD39 antibody should be determined by the researcher.

Immunogen

A synthetic peptide specific to ENTPD1 protein was used as the immunogen for the CD39 antibody.

Storage

Store the CD39 antibody at -20oC.