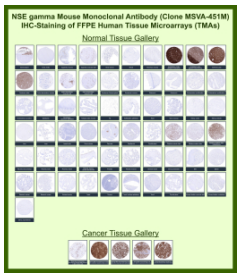
ENO2 Antibody / Gamma-enolase [clone MSVA-451M] (V5874)

Catalog No.	Formulation	Size
V5874-100UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V5874-20UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug

Bulk quote request

Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	MSVA-451M
Purity	Protein G affinity
UniProt	P09104
Localization	Cell membrane, Cytoplasm
Applications	Immunohistochemistry (FFPE) : 1:100-1:200
Limitations	This ENO2/Gamma-enolase antibody is available for research use only.



Immunohistochemistry tissue microarray analysis of Gamma-enolase expression. Gamma-enolase Mouse Monoclonal Antibody (clone MSVA-451M) was evaluated by immunohistochemistry on formalin-fixed, paraffin-embedded human tissue microarrays encompassing a wide panel of normal and cancer tissues. Staining demonstrates strong cytoplasmic immunoreactivity in neuronal and neuroendocrine tissues, including cerebellum and cerebral cortex, with limited staining in non-neural tissues, consistent with the known expression profile of Gamma-enolase. Cancer tissues show variable positivity in tumors with neuroendocrine or neuronal differentiation. Overall staining distribution and relative expression patterns are concordant with publicly available expression data reported by the Human Protein Atlas, supporting the biological relevance of the observed immunoreactivity.

Description

ENO2 antibody targets Gamma-enolase, a glycolytic enzyme encoded by the ENO2 gene and a neuron- and neuroendocrine-associated isoform of enolase. Gamma-enolase catalyzes the reversible conversion of

2-phosphoglycerate to phosphoenolpyruvate in the glycolytic pathway and is commonly referred to as neuron-specific enolase. In addition to its metabolic role, Gamma-enolase is linked to neuronal differentiation and survival, making ENO2 antibody detection relevant for studies of neural and neuroendocrine biology.

Gamma-enolase is predominantly localized in the cytoplasm and is highly expressed in neurons, neuroendocrine cells, and cells of neural crest origin. It is also detectable in neuroendocrine tissues such as adrenal medulla, pancreatic islets, and certain pulmonary neuroendocrine cells. ENO2 antibody reagents are therefore widely used to identify neuronal and neuroendocrine differentiation in tissue samples and experimental models.

Functionally, Gamma-enolase supports cellular energy metabolism in neurons, which rely heavily on glycolysis to meet high energetic demands. Beyond metabolism, ENO2 has been implicated in processes related to neurite outgrowth and neuronal maintenance through interactions with cytoskeletal and signaling proteins. These multifunctional properties make ENO2 antibody tools useful for investigating metabolic and differentiation-related aspects of neural cells.

Altered ENO2 expression is associated with a range of pathological conditions. Increased Gamma-enolase levels are commonly observed in neuroendocrine tumors and neuronal injury, while changes in expression have been reported in neurodegenerative disorders and certain cancers with neuroendocrine features. As a result, ENO2 antibody-based detection is frequently applied in research focused on neuroendocrine tumor biology, neural damage, and disease-associated metabolic changes.

Clone MSVA-451M is designed to recognize Gamma-enolase in research applications. ENO2 antibody reagents are suitable for detecting protein expression and localization in neuronal and neuroendocrine tissues, supporting studies of neural differentiation, metabolic regulation, and disease-associated alterations in enolase expression.

Application Notes

1. Optimal dilution of the ENO2/Gamma-enolase antibody should be determined by the researcher.

2. Manual Protocol: Freshly cut sections should be used (less than 10 days between cutting and staining). Heat-induced antigen retrieval for 5 minutes in an autoclave at 121oC in pH 7.8 Target Retrieval Solution buffer. Apply the antibody at a dilution of 1:150 at 37oC for 60 minutes. Visualization of bound antibody by the EnVision Kit (Dako, Agilent) according to the manufacturer's directions.

Immunogen

A synthetic peptide of human NSE gamma (around amino acids 416-433) was used as the immunogen for the ENO2/Gamma-enolase antibody.

Storage

ENO2/Gamma-enolase antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.