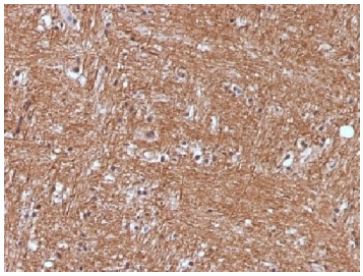
NSE Antibody / Neuronal Differentiation Marker Antibody [clone ENO2/1375] (V3398)

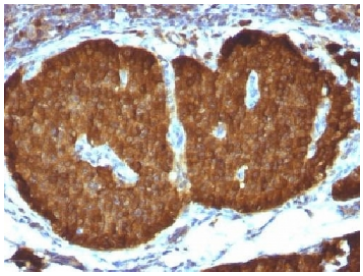
Catalog No.	Formulation	Size
V3398-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3398-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3398SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

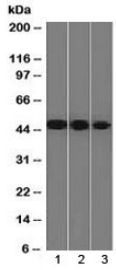
Species Reactivity	Human, Mouse, Rat
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b, kappa
Clone Name	ENO2/1375
Purity	Protein G affinity chromatography
Buffer	1X PBS, pH 7.4
UniProt	P09104
Gene ID	2026
Localization	Cytoplasmic
Applications	Western blot: 1-2ug/ml Immunohistochemistry (FFPE): 0.2-0.4ug/ml for 30 min at RT
Limitations	This NSE Antibody / Neuronal Differentiation Marker Antibody is available for research use only.



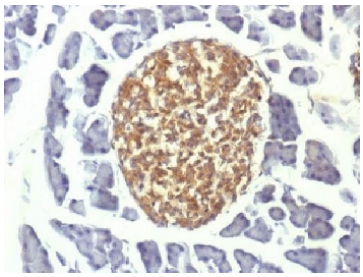
NSE Antibody human cerebellum IHC staining. Immunohistochemistry analysis of Neuron Specific Enolase in FFPE human cerebellum using NSE Antibody / Neuronal Differentiation Marker Antibody clone ENO2/1375 demonstrates strong cytoplasmic HRP-DAB brown staining in neuronal cell populations, consistent with neuronal differentiation and high ENO2 expression in cerebellar tissue, while non-neuronal regions show comparatively lower staining. The staining pattern highlights neuronal morphology and dense cellular architecture within the cerebellum. Heat-induced epitope retrieval was performed using pH 9 Tris-EDTA buffer for 10-20 min prior to staining.



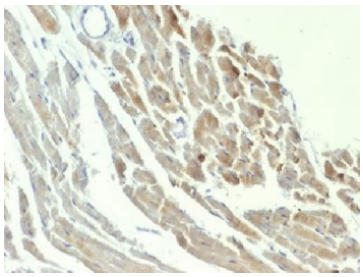
NSE Antibody human pheochromocytoma IHC staining. Immunohistochemistry analysis of Neuron Specific Enolase in FFPE human pheochromocytoma using NSE Antibody / Neuronal Differentiation Marker Antibody clone ENO2/1375 demonstrates strong cytoplasmic HRP-DAB brown staining in tumor cells, consistent with neuronal and neuroendocrine differentiation, while surrounding stromal components show minimal staining. The staining pattern highlights tumor cell populations with differentiated neuronal lineage characteristics and supports identification of neuroendocrine tumor features. Heat-induced epitope retrieval was performed using pH 9 Tris-EDTA buffer for 10-20 min prior to staining.



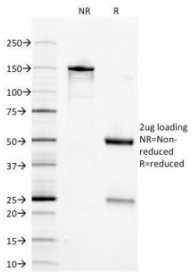
NSE Antibody human cell line western blot analysis. Western blot analysis of Neuron Specific Enolase in human cell lysates using NSE Antibody / Neuronal Differentiation Marker Antibody clone ENO2/1375 shows a band at approximately 47 kDa. Lane 1: human Y79 cell lysate, Lane 2: human HeLa cell lysate, Lane 3: human HepG2 cell lysate. A band is detected at approximately 47 kDa, consistent with the predicted molecular weight of Neuron Specific Enolase (ENO2). The observed band across multiple human cell lines supports expression of this neuronal differentiation marker in cells with varying degrees of neuronal or metabolic activity.



NSE Antibody Mouse Pancreas IHC. Immunohistochemistry testing of FFPE mouse pancreas with NSE antibody (clone ENO2/1375). Required HIER: boil sections in pH 9 10mM Tris with 1mM EDTA for 10-20 min.



NSE Antibody Rat Heart IHC. Immunohistochemistry testing of FFPE rat heart with NSE antibody (clone ENO2/1375). Required HIER: boil sections in pH 9 10mM Tris with 1mM EDTA for 10-20 min.



SDS-PAGE Analysis of Purified, BSA-Free NSE Antibody (clone ENO2/1375). Confirmation of Integrity and Purity of the Antibody.

Description

Neuron-specific enolase (NSE), also known as Gamma-enolase or ENO2, is a glycolytic enzyme predominantly expressed in neurons, where it serves as a widely recognized marker of neuronal differentiation and maturation. As cells progress from progenitor states toward fully differentiated neurons, NSE expression increases, making it a reliable indicator of neuronal lineage commitment. Localized to the cytoplasm, NSE is readily detected in neuronal cell bodies and processes, where its expression reflects both metabolic activity and cellular specialization. NSE Antibody reagents are therefore extensively used in neuroscience research to identify and characterize differentiated neuronal populations in

tissue sections and experimental models.

NSE antibody, also referred to as ENO2 antibody or Gamma-enolase antibody in the literature, recognizes a cytoplasmic protein with highly enriched expression in mature neurons and select neuroendocrine cells. The NSE Antibody clone ENO2/1375 is particularly suited for studies focused on neuronal differentiation, where detection of ENO2 expression enables clear distinction between differentiated neuronal cells and undifferentiated or non-neuronal populations. In normal tissues, strong cytoplasmic NSE expression is observed in central nervous system structures such as cerebellum and cerebral cortex, where neuronal density is high, while most peripheral and non-neuronal tissues exhibit minimal expression, providing strong contrast for lineage identification.

In developmental and stem cell models, NSE expression is frequently used as a late-stage marker of neuronal differentiation. Its upregulation correlates with neuronal maturation, allowing researchers to monitor the progression of neural progenitor cells into fully differentiated neurons. This makes NSE Antibody an important tool for evaluating differentiation efficiency, neuronal lineage commitment, and cellular identity in both in vitro differentiation systems and in vivo studies of neurogenesis.

Beyond normal neuronal biology, NSE expression can also provide insight into cellular differentiation states in disease contexts. In certain cancers, particularly those exhibiting neuronal or neuroendocrine features, NSE expression reflects lineage plasticity and partial differentiation toward a neuronal phenotype. This adds an additional layer of biological interpretation when assessing tumor cell identity and differentiation status in research settings.

Clone ENO2/1375 enables consistent and reproducible detection of Neuron Specific Enolase across diverse experimental systems, supporting detailed analysis of neuronal differentiation and maturation. Its application in differentiation-focused research allows precise identification of neuronal populations and facilitates studies of lineage specification, cellular development, and tissue organization.

This antibody targets Neuron Specific Enolase in research applications requiring sensitive and interpretable detection of neuronal differentiation markers, making it well suited for studies of neurogenesis, neuronal maturation, and lineage-specific expression profiling.

This antibody is part of the Gamma-enolase antibody collection, where additional ENO2 antibodies for immunohistochemistry can be explored.

Application Notes

The concentration stated for each application is a general starting point. Variations in protocols, secondaries and substrates may require the NSE Antibody / Neuronal Differentiation Marker Antibody to be titered up or down for optimal performance.

Immunogen

Amino acids 416-433 of human Neuron Specific Enolase were used as the immunogen for this NSE antibody.

Storage

Store the NSE antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

Neuron Specific Enolase antibody, ENO2 antibody, Gamma-enolase antibody, neuronal marker antibody, NSE differentiation marker antibody

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