Product Data Sheet:
Neuron Specific Enolase (NSE)

Cat. No:	AB-84260
Conjugate:	Unconjugated
Size:	100ul
Clone:	POLY
Concentration:	1mg/ml
Host:	Ch
Isotype:	IgY
Immunogen:	Recombinant full length human NSE expressed in and purified from E. coli.
Reactivity:	Hu, Ms, Rt
Applications:	Western Blot: 1:5,000-1:10,000 Immunofluorescence: 1:500-1:1,000 Immunohistochemistry: 1:500-1:1,000
Molecular Weight:	47kDa
Purification:	Purified
Background:	Neuron specific enolase (NSE) is an enzyme which catalyzes the conversion of 2-phosphoglycerate to phosphoenolpyruvate in the glycolytic pathway, and also the reverse reaction in gluconeogenesis. It is one of three mammalian enolases, which are also known as ENO1, ENO2, and ENO3 or alternately as α, β and γ-enolase. The three enolases are related in protein sequence and have different cell type specific expression patterns, so that antibodies to them are useful cell type specific markers. NSE is also known as enolase 2 or γ-enolase and is heavily expressed in neuronal cells. Enolase 1 is also known as α-enolase and as non-neuronal enolase. The third enolase, enolase 3 or β-enolase, is expressed in muscle cells. Perhaps not surprisingly, since neurons require a great deal of energy, they are very rich in glycolytic enzymes such a GAPDH and NSE. Antibodies to this protein are therefore useful to identify neuronal cell bodies, and also developing neuronal lineage and neuroendocrine cells. Release of NSE from damaged neurons into CSF and blood has also been used as a biomarker of neuronal injury, and elevated NSE levels in blood and tissues are seen associated with various kinds of neuroendocrine derived tumors (1,2). The NSE antibody was made against full length recombinant human NSE expressed in and purified from E. coli. It can be used to trace NSE and to identify neuronal cells in cell culture and sectioned material. We also supply an alternate polyclonal antibody to NSE made in rabbit.
Form:	Liquid
Buffer:	Supplied as an aliquot of IgY preparation plus 5mM azide
Storage:	Store at 4°C. For longer term storage freeze at -20°C

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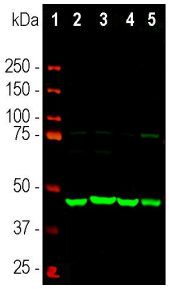
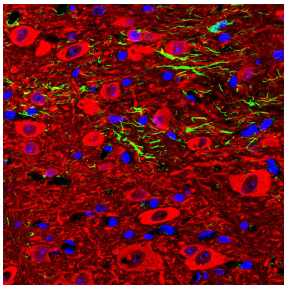


Western blot analysis of different tissue and cell lysates using chicken pAb to neuron specific enolase (NSE), NSE, dilution 1:5,000 in green: [1]protein standard (red), [2] rat brain, [3] mouse brain, [4] cow brain and [5] SH-SY5Y cells. The strong band at about 47kDa corresponds to the NSE protein.



Immunofluorescent analysis of a section of adult mouse cerebellar dentate nucleus stained with chicken pAb to neuron specific enolase (NSE), NSE, dilution 1:3,000 in red. The section was costained with rabbit pAb to GFAP, dilution 1:5,000 in green. The blue is Hoechst staining of nuclear DNA. Following transcardial perfusion of mouse with 4% paraformaldehyde, brain was post fixed for 24 hours, cut to 45µM, and free-floating sections were stained with above antibodies. NSE antibody detects NSE protein heavily expressed in the cytoplasm and dendrites of dentate neurons while the GFAP antibody stains the network of astroglial cells.

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