Polysciences, Inc.

Corporate Headquarters
400 Valley Road
Warrington, PA 18976
1-800-523-2575
FAX 1-800-343-3291
Email: info@polysciences.com
www.polysciences.com

Europe - Germany
Polysciences Europe GmbH
Handelsstr. 3
D-69214 Eppelheim, Germany
(49) 6221-765767
FAX (49) 6221-764620
Email: info@polysciences.de

Antisera to Neuron Specific Enolase (NSE)

Neuron specific enolase (NSE) is a unique form of the glycolytic enzyme enolase (E·C·4·2·1·11), found exclusively in neurons and neuroendocrine tissues. It is structurally, functionally, and immunologically distinct from all other known enolases. Anti-NSE is the reagent of choice for the visualization of both neurons and peptide secreting neuroendocrine cells by immunocytochemistry. NSE has been found in high concentrations in neuroendocrine tumors like oat cell carcinoma, neuroblastoma and pheochromocytoma. Certain neurological disorders such as Alzheimer's disease, Huntingdon's disease and Amyotrophic Laterosclerosis are accompanied by increases in serum and spinal fluid NSE levels. Levels of NSE in biological fluids can be a useful parameter for the assessment of neural tissue damage in the brain.

Anti-NSE reacts with the gamma-gamma enolase isoenzyme found primarily in neurons and endocrine cells and also to some extent in platelets, megakaryocytes, T-cells, and striated and smooth muscle cells. The antibody stains neurons, APUD cells, ganglion cells in the GI tract and myelinated and unmyelinated nerve fibers. Tumors showing positive reactivity with anti-NSE include gangliomas, paragangliomas, oat-cell carcinomas, astrocytomas, oligoastrocytomas, glioblastomas, meningiomas, melanomas and Schwanomas.

Polysciences' Anti-Human NSE is very specific and can be used for immunocytochemical staining at dilutions of 1:3000 to 1:6000. Our Anti-Rat NSE can be used at dilutions of 1:2000 to 1:4000. Immunocytochemical staining procedures for the detection of NSE are described in the following articles: Brain Research, **181**, 391 (1980); **190**, 195 (1981).

To complement the antisera to NSE, we supply the purified antigens prepared from human and rat brains. Our human and rat NSE are greater than 99% pure and have a specific activity greater than 60 units per mg. of protein.

Anti-NSE is the reagent of choice for the quantification of neurons and peptide secreting neuroendocrine cells by RIA. Our anti-human NSE can be used in conjunction with pure human NSE to formulate a RIA and measure NSE levels in tissue, serum or CSF. Similarly, anti-rat NSE and pure rat NSE can be used to formulate a RIA. One vial of antiserum will be sufficient to perform a number of assays and one vial of antigen (50 µg) will be sufficient for several iodinations. An additional vial of antigen will be necessary for standard curves. Procedures involving RIA and its formulation can be found in the following article: J. Neurochem., **36**, 1093 (1981).

The anti-human NSE is supplied lyophilized in 100 µl and 200 µl sizes. These should be reconstituted in 100 µl and 200 µl of distilled water. Several small aliquots should be made and these aliquots should be stored frozen. Repeated freezing and thawing should be avoided. The antiserum will be stable for long periods in the freezer. The anti-rat NSE is supplied lyophilized in 150 µl and 350 µl sizes. These should be reconstituted in 150 µl and 350 µl of distilled water and these aliquots should be stored frozen.

For additional information on purified human and rat NSE, ask for Data Sheet #314.

Caution:
Although these products are not known to be hazardous, exercise care in handling. For research only. Not for use in diagnostic procedures.

Ordering Information:

Cat. #	Description	Size
16625	Anti-Rat NSE in Rabbit	150µl 350µl
17437	Anti-Human NSE in Rabbit, Serum, Lyophilized	100µl 200µl
17436	NSE, Human (NSE-H), Pure, Lyophilized	50µg
17435A	NSE, Rat (NSE-R), Pure, Lyophilized	50µg

To Order:
In The U.S. Call: 1-800-523-2575 • 215-343-6484
In The U.S. FAX: 1-800-343-3291 • 215-343-0214

In Germany Call: (49) 6221-765767
In Germany FAX: (49) 6221-764620

Order online anytime at **www.polysciences.com**

Additional References:

1. Current Methods in Cellular Neurobiology, **1**, 1 (1983)
2. J. Histochem. Cytochem., **32**, 1295 (1984)
3. Brain Research, **327**, 379 (1985)
4. Am. J. Anat., **176**, 461 (1986)
5. Am. J. Clin. Pathol., **87**, 245 (1987)
6. Ann. Rev. Neurosci., **10**, 269 (1987)
7. Int. J. Dev. Neurosci., **6**, 77 (1988)