ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Rat neuron-specific enolase (NSE/gamma enolase) protein and Antibodies

Cat. # NSE13-S	Rabbit Anti-Rat NSE protein antiserum	**SIZE**: 100 ul
Cat. # NSE13-C	Recombinant Rat NSE (NSE/gamma enolase) protein control for western	**SIZE**: 100 ul

The glycolytic enzyme enolase (2-phospho-Dglycerate hydrolyase) exists as several dimeric isoenzymes (aa, ab, ag, bb and gg) composed of three distinct subunits: a, b, and g (alpha, beta, and gamma). Three isoenzymes are found in human brain: aa, ag, and gg. The ag and gg-enoloase isoenzymes are also known as neuron-specific enolase (NSE) as these isoenzymes initially were detected in neurons and neuronendocrine cells. Lung cancer is one of the most spread cancer forms with incidences about 50-100 per 100,000 population. Approximately 20% of the lung cancer is small cell lung cancer. NSE has been shown to be a valuable tumor marker of neuroendocrine origin, particulary in small cell lung cancer and in neuroblastoma. Patients with small cell lung cancer show various proportions of ag and gg isoenzymes. The determination of NSE should detect ag and gg isoforms with the same sensitivity. The antibodies for this particular assay are specific for the g-subunit without cross reactivity with a or b subunits. NSE is reported to be useful diagnostic marker for lung cancer, neuroblastoma, melnoma, seminoma and in injury of central nervous system. In addition to the above, NSE can be a valuable tool in following-up the effect of chemotherapy of small cell lung cancer, in prognostic evaluation of patients with small cell lung cancer, and in differential diagnosis between cell lung cancer and non-small cell lung cancer.

Protein name Gamma-enolase
Synonyms EC 4.2.1.11; 2-phospho-D-glycerate hydro-lyase; Neural Enolase; Neuron-specific Enolase; NSE; Enolase 2
Gene name Name: ENO2

Source of Antigen and Antibodies

Antigen	Purified Rat NSE protein
Antibody host/type	Rabbit, Polyclonal IgG (Cat # NSE13-S)
2-ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control	Non-immune rabbit IgG (Cat # 20009-1) to be used as –ve control for ELISA, WB, IHC etc.

Rat NSE (gamma-enolase) was purified from rat brain (>95%) using proprietary techniques. Purified NSE ~45 Kda and >95% pure by SDS-APGE. For Western blot +ve control (**Cat # NSE13-C**) is supplied in SDS-PAGE sample buffer (reduced). Load 10 ul/lane of **NSE13**-C for good visibility with antibody Cat # **NSE13**-S. Store at –20oC in suitable size aliquots. SDS may crystallize in cold conditions. It should redissolve by warming before taking it from the stock. It should be heated once prior to loading on gels. If the product has been stored for several weeks, then it may be preferable to add 5 ul of fresh 2x sample buffer per 10 ul of the **NSE13**-C solution prior to heating and loading on gels. This preparation is not biologically active. It is not suitable for ELISA or other applications where native protein is required. Do not freeze, thaw, or heat repeatedly.

Form & Storage of Antibodies/Peptide Control

Affinity pure IgG
100 ug/100ul solution lyophilized powder
Supplied in **Buffer**: PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Storage

Short-term: unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..

Long-term: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20oC or below.
Shipping: 4oC for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K using Chemiluminescence technique.

ELISA (1:10K-1:100K; using 50-100 ng of control peptide/well).

IHC: 1:100-1:1000 using formaldehyde fixed, de-paraffinized tissue.

Specificity & Cross-reactivity

Anti-rat NSE IgG reacts with rat NSE. Antibody crossreactivity in various other species is not established. Purified rat NSE protein can be used as positive control (#NSE13-C).

General References: McAleese Sm (1988) Eur. J. Biochem. 178, 413-417; Oliva D (1989) Gene 79, 355-360;

*This product is for In vitro research use only.

Related material available from ADI

Recombinant HevB1 proteins

NSE13-S-C 100720A

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