CELL APPLICATIONS, INC.

NSE Antibody

Cat. No. CA1061

Applications:	**WB, IHC**
Detected MW:	**39 kDa**
Species & Reactivity:	**Human, Rat**
Isotype:	**Rabbit IgG**

BACKGROUND

Neuron-specific enolase (NSE) is the neuronal form of the intracytoplasmic glycolitic enzyme enolase and one (gamma isoform) of the three enolase isoenzymes found in mammals. NSE is localized mainly in neurons and neuroectodermal tissue.[1] This dimeric enzyme has a molecular weight of 78 kDa and catalyzes the interconversion of 2-phosphoglycerate and phosphoenolpyruvate. A switch from alpha enolase to gamma enolase occurs in neural tissue during development in rats and primates. NSE has neurotrophic and neuroprotective properties on a broad spectrum of central nervous system (CNS) neurons. NSE binds, in a calcium-dependent manner, to cultured neocortical neurons and promotes cell survival. Since NSE is not secreted physiologically, an increase in serum and cerebrospinal fluid (CSF) concentrations is considered to be a marker for neuronal cell damage. Several studies have been performed to investigate its potential role as a peripheral biochemical marker for neuronal injury involving reactive gliosis, astrocytic death and/or blood-brain-barrier dysfunction.[2] In addition NSE is also the most sensitive tumor marker for small-cell lung carcinoma (SCLC) at the time of diagnosis. NSE levels might not be related with the stage of the disease. However, a low pre-treatment NSE level might be used in predicting good response to chemotherapy in patients with SCLC.[3] Moreover, it was shown that $p19^{ras}$ is a novel regulator to suppress cell proliferation in lung cancer through the interaction with NSE.[4]

References:

1. Marchi, N. et al: Res. Neurol. Neurosci. 21:109–21, 2003
2. Ekmektzoglou, K.A. et al: Resuscitation. 75:219-28, 2007
3. Erbaycu, A. E. et al: Archivos de Bronconeumología 46:364-9, 2010
4. Jang, S-M. et al: Cancer Lett. 289:91-8, 2010

TECHNICAL INFORMATION

Source:
NSE Antibody is a rabbit antibody raised against a short peptide from human NSE sequence.

Specificity and Sensitivity:
This antibody detects endogenous levels of NSE proteins without cross-reactivity with other related proteins.

Storage Buffer: PBS and 30% glycerol

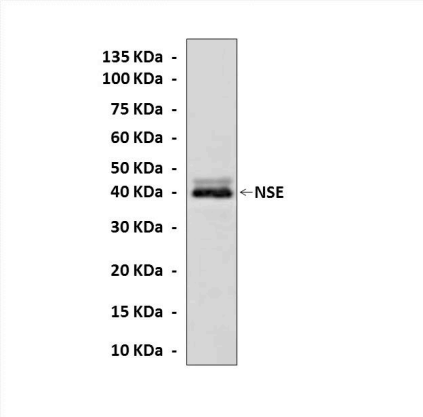
Storage:
Store at -20°C for at least one year. Store at 4°C for frequent use. Avoid repeated freeze-thaw cycles.

APPLICATIONS

Application:	*Dilution:
WB	1:1000
IP	n/d
IHC	1:50-200
ICC	n/d
FACS	n/d

**Optimal dilutions must be determined by end user.*

QUALITY CONTROL DATA



Western Blot detection of NSE proteins in rat brain tissue lysate using NSE Antibody.