

## HISTOPRIME<sup>®</sup>

**CatNo E023**

### NSE (neuron-specific enolase)

Lot: See Label

Storage: +2 to +8 °C

Exp. Date: See Label

### Monoclonal Antibody against Neuron-specific enolase (gamma enolase)

#### Specificity

Enolase is an enzyme of glycolysis and catalyzes the conversion of 2-phospho-D-glycerate to phosphoenolpyruvate. The cytoplasmic enzyme exists in 3 subunits that occur as homo- (alpha-alpha, beta-beta, gamma-gamma) or heterodimers (alpha-beta, alpha-gamma) in the 5 known isozymes. In liver and glia, alpha-alpha enolase is found, and in skeletal and cardiac muscle, alpha-beta and beta-beta enolase. In contrast, in brain a mixture are the subunits alpha and gamma as - alpha-alpha, alpha-gamma and gamma-gamma dimers. The monoclonal antibody E023 recognizes human gamma-gamma enolase with a molecular weight of about 100kDa.

#### Contents

Reagents sufficient for about 50-100 tissue sections  
1 dropper bottle **HISTOPRIME<sup>®</sup> NSE** (Bottle, 5 ml)

#### Normal Tissue

Axons, dendrites and cell bodies (perikaryon) of brain neurons as well as peripheral nerve fibers and ganglia, adrenal medulla, pancreatic islet cells and other cells of neuroectodermal origin are positive for NSE.

#### Abnormal Tissue

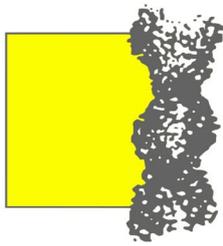
NSE antibodies serve predominantly as markers of tumors of the nervous system and diffuse neuroendocrine system (APUD system). For example, neuroblastomas, astrocytomas, glioblastomas, meningiomas, and pituitary adenomas are positive. In addition, melanoma, medullary thyroid carcinoma, and small cell lung carcinoma (SCLC) usually stain with gamma enolase.

#### Fusion Partners

BALB/C mice were immunized with purified human gamma-gamma enolase. Spleen cells from these animals were fused with a mouse myeloma cell line. The resulting hybridoma cells were used for ascites recovery. The specificity of the purified antibody was tested in enzyme immunoassays as well as immunohistochemically on various normal and tumor tissues.

E023-220109-1/2





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### Characterization

<b>Antigen</b>	Human gamma-Enolase
<b>Specificity</b>	Gamma-Enolase
<b>Abnormal Tissues</b>	Mainly neuronal and neuroendocrine tumors*.
<b>Clone</b>	MIG-N3
<b>Isotype</b>	Mouse IgG1
<b>Pretreatment</b>	Pretreatment with proteolytic enzymes not required. In the case of formaldehyde-fixed material, usually significant improvement of results with HISTOSAFE-ENHANCER (LINARIS CatNo E7000).
<b>Incubation Period</b>	1 hour by room temperature
<b>Control Tissue</b>	Nervous tissue or pancreas
<b>Application</b>	Ready-to-use in PBS, BSA, NaN <sub>3</sub> (0.09%) pH 7.4(*) suitable on cryostat sections and on formalin-fixed, paraffin-embedded tissue sections.
<b>Recommended Secondary Reagents</b>	<b>Alkaline Phosphatase</b> Vectastain <sup>®</sup> ABC Mouse IgG (Vector CatNo AK-5002) and Substrate-Kit e.g. Vector <sup>®</sup> Red (Vector CatNo SK-5100). <b>Peroxidase</b> Vectastain <sup>®</sup> ABC-Elite Mouse IgG (Vector CatNo PK-6102) and Peroxidase Substrate-Kit e.g. DAB (LINARIS CatNo E108) or HistoGreen (LINARIS CatNo E109).

### References

1. Cooper, E.H. Splinter, T.A.W., Brown, D.A., Muers, M.F., Peake, M.D., and Pearson, S.L. (1985) Evaluation of radioimmunoassay for neuron specific enolase in small cell lung cancer. Br.J. Cancer 52; 333-338
2. Haimoto, H., Takahashi, Y., Koshikawa, T., Nagura, H., and Kato, K. (1985) Immunohistochemical localization of gamma-enolase in normal human tissues other than nervous and neuroendocrine tissues. Lab. Invest. 52,3; 257-263
3. Soler Federspiel, B.S., Cras, O., Gheuens, J., Andries, D., and A. Lowenthal (1987) Human gamma-gamma-Enolase: Two-site immunoradiometric assay with a single monoclonal antibody. J. Neurochem. 48; 22-28
4. Cras, P., Martin, J.J., and Gheuens, J. (1988) Gamma-Enolase and glial fibrillary acidic protein in nervous system tumors: An immunohistochemical study using specific monoclonal antibodies. Acta Neuropathol. 75; 377-384
5. Seshi, B., True, L., Carter, D., and Rosai, J. (1988) Immunohistochemical characterization of a set of monoclonal antibodies to human neuron-specific enolase. Am J. Pathol. 131,2; 258-269

**Differential identification is aided by the results from a panel of antibodies. Interpretation must be made within the context of the patient's clinical history and other diagnostics tests by a qualified pathologist.**

**(\*)Note E023 contains Sodium Azide; take adequate precautions!**

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**For Research use only. Not for use in diagnostic procedure**

Manufacturer

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FIT FOR SCIENCE

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