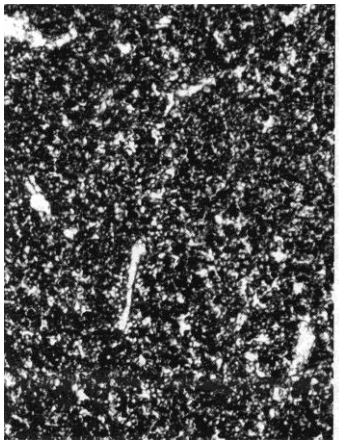
MONOCLONAL ANTIBODY DATASHEET

VERTEBRATE ANTIBODIES

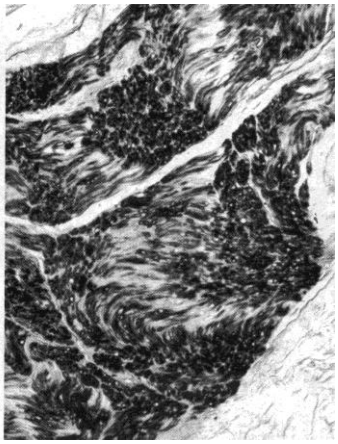
Clones NSE-P1 & NSE-P2 against human neuron-specific enolase (γ-enolase isozyme)

Specificity: γ-isozyme of human enolase (NSE)
Description: monoclonal antibodies specific for the γ subunit of human enolase (neuron-specific enolase, NSE)
sotype: both IgG1κ
Clones: NSE-P1 and NSE-P2
Purification: unpurified; supplied as hybridoma supernatants
Fusion Partner: Ag 8563
B Cell Donor: BALB-c mouse
Cross-reactivity: not reactive with -isozyme of enolase
Immunogen: ovalbumin-conjugated synthetic peptides corresponding to human NSE amino acid sequence: **NSE-P1:** aa's 416-433 - LGDEARFAGHNFRNPSVL **NSE-P2:** aa's 271-285 - TGDQLGALYQDFVRD

IHC: staining of neuron specific enolase in formalin fixed wax-embedded nerve tissue using NSE MAbs NSE-P1 and NSE-P2



NSE immunoreactivity in cerebral cortex neurons



NSE immunoreactivity in peripheral nerve fibres

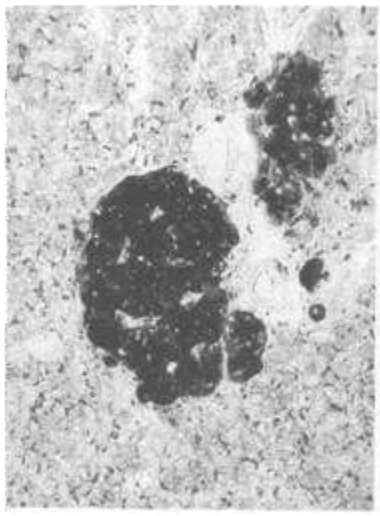
Positive Control: IHC: formalin-fixed, paraffin-embedded nerve tissue sections **western blot:** γ-isozyme of human enolase; 50-100 ng per lane
Clinical significance: neuron specific enolase (NSE, or γ-isozyme of enolase) is found at elevated concentrations in plasma in certain neoplasias, including paediatric neuroblastoma (Lancet i (1982) 583-585) and small cell lung cancer (Lancet ii, (1983) 361-363)

Applications		Recommended Usage Conditions
ELISA	✓	see Duncan et al, J Immunol Methods **151**: 227-3, 1992
Western Blot	✓	undiluted
IHC	✓	see Murray et al, J Clin Path **46**: 993-6, 1993

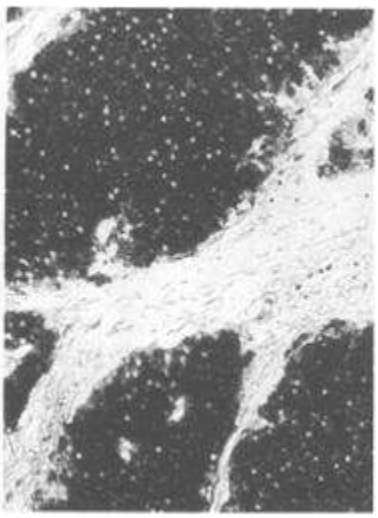
Human tissues examined using NSE-P1 & NSE-P2	Results observed	Ref. no.
Serum	NSE detectable by ELISA	1
Brain tissue: nerve cells, axons and processes	IHC +ve	2
Brain tissue: glial cells and blood vessels	IHC -ve	2
Brain tissue: ganglion cells and peripheral nerve fibres	IHC +ve	2
Brain tissue: adrenal medulla	IHC +ve	2
Pancreas: islets of Langerhans	IHC +ve	2
Pancreas: acini or ducts of the exocrine pancreas	IHC -ve	2

Adrenal medulla	+ve (chromaffin cells)	2
Adrenal cortex	-ve	2
Skeletal muscle	IHC -ve	2
Liver tissue	IHC -ve	2
Endocrine tumours (pancreas, adrenals, small bowel)	+ve in tumour cells	2

IHC: staining of neuron specific enolase in formalin fixed wax-embedded nerve tissue using NSE MAbs NSE-P1 and NSE-P2

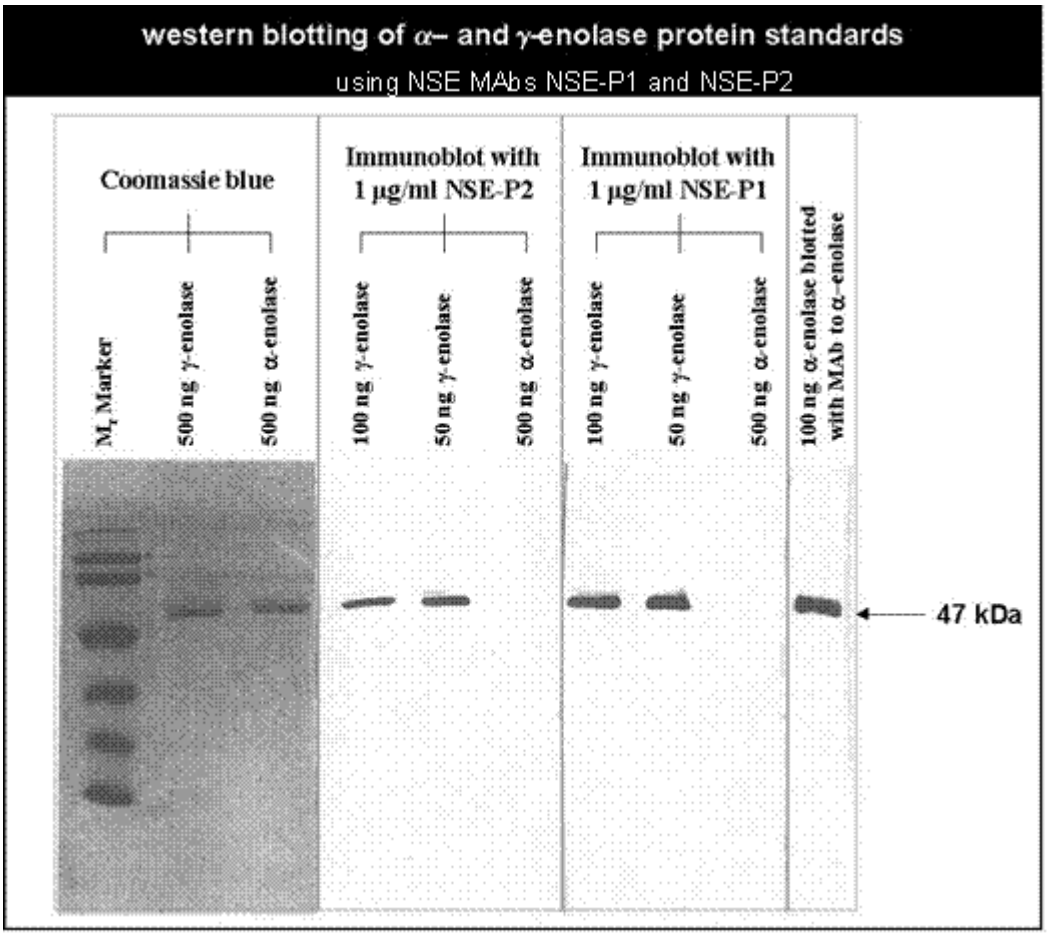


NSE immunoreactivity in pancreas is localised to the islet of Langerhans



NSE immunoreactivity in tumour cells from a small bowel carcinoma

References	**1**	Duncan, ME, McAleese SM, Booth NA, Melvin WT & Fothergill JE (**1992**) A simple enzyme-linked immunosorbent assay (ELISA) for the neuron-specific γ isozyme of human enolase (NSE) using monoclonal antibodies raised against synthetic peptides corresponding to isozyme sequence differences. *J. Immunological Methods* **151**: 227-236.
	2	Murray GI, Duncan ME, Melvin WT & Fothergill JE (**1993**) Immunohistochemistry of neurone specific enolase with γ subunit specific anti-peptide monoclonal antibodies. *J. Clin Pathol* **46**: 993-996. .



Performance of MAbs NSE-P2 & NSE-P1 in a sandwich ELISA for γ-enolase
(figure taken from Duncan et al, Journal of Immunological Methods 151: 227-36, 1992)

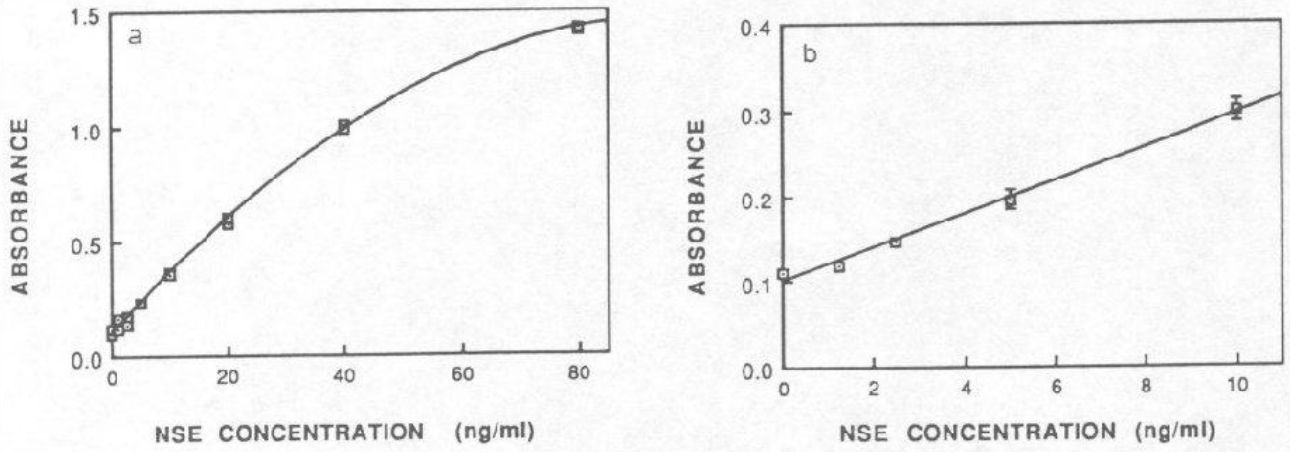


Fig. 4. (*a*) Standard curve for the assay of NSE. Dilutions of γ-enolase were made in PBTE, and the assay set up as described in the text using P2 at 7.5 µg/ml as the plate antibody and P1-HRPO conjugate at 2 µg/ml for detection. (*b*) Determination of the detection limit of the assay for NSE. Dilutions of γ-enolase were made in PBTE containing 10% normal human serum, and the assay set up as in *a*. Each point represents the mean of six determinations.