

**Anti Acetylcholinesterase (human brain, bovine brain, AChE)**
**Mouse monoclonal antibody**

Subclass: IgG1/I

PRODUCT NO.	<b>HYB 190-01</b>
PRESENTATION	Preparation: Protein-A/G purified Content: 1 mL, 1 mg/mL Solvent: 0.01 M phosphate buffer, pH 7.4, with 0.5 M NaCl and 15mM sodium azide Storage: In the dark at 4-8°C
ANTIGEN	Acetylcholinesterase (AChE, EC.3.1.1.7.) is an enzyme located in the postsynaptic membrane and in the muscle endplates, where it hydrolyses the neurotransmitter acetylcholin. AChE from brain is a tetramer (G4-AChE) with a molecular mass of 320 kDa, AChE from erythrocytes is a dimer (G2-AChE) with a molecular mass of 170 kDa. Detection of higher levels of AChE in amniotic fluid can indicate fetal malformations such as neural tube defects.
IMMUNOGEN	C-terminal 10 residues of brain acetylcholinesterase (human and bovine), absent from the erythrocyte enzyme.
SPECIFICITY	HYB 190-01 is specific for brain AChE and does not recognize AChE from erythrocytes. The antibody can thus distinguish between mammalian brain AChE and erythrocyte AChE. Weak cross-reactivity with Torpedo marmorata AChE but none with AChE from electric eel or human BtChE.
EPI TOPE SPECIFICITY	C-terminal 10 residues (aa 574-583) of brain acetylcholinesterase (DS-AChE and SS-AChE) (1).
REACTIVITY	Can be used in ELISA on amniotic fluid for the diagnosis of neural tube defects. HYB 190-01 is well suited as catching antibody (on an anti-mouse IgG coat) in enzyme antigen immunoassay (EAIA), where the antigen (AChE) is captured and used directly as substrate for acetylthiocholiniodide (Ellmann's reaction) (1,2). In Western blotting and dot blotting HYB 190-01 reacts with native and denatured human and bovine, detergent soluble and salt-soluble AChE. No cross-reactivity is seen with erythrocyte AChE.
CULTURE MEDIUM	RPMI 1640 with 10% fetal calf serum
FUSION PARTNER	X63-Ag8.653.
IMMUNIZATION	Female CF1 x BALB/c mice immunized i.p. with immunogen adsorbed onto Al(OH) <sub>3</sub>
APPLICATION	

Method	Usability	Dilution guideline	References
ELISA	Yes	1/16,000	1
Immunoblotting	Yes	1/75	1
Immunohistochemistry	Not determined		

The dilution guideline for ELISA is based on plates coated with anti-mouse antibody to catch the monoclonal antibody followed by recomb. AChE (human), 20 U/mL. Detection is done with Ellmans reagent. Users should determine the optimal dilutions for their own purpose.

REFERENCES	<ol style="list-style-type: none"> <li>1. Boschetti N, Brodbeck U, Jensen SP, Koch C, Norgaard-Pedersen B (1996) Monoclonal antibodies against a C-terminal peptide of human brain acetylcholinesterase distinguish between erythrocyte and brain acetylcholinesterases. Clin Chem 42:19-23.</li> <li>2. Rasmussen AG, Arends J, Larsen SO (1989) Evaluation and quality control of a monoclonal antibody based enzyme antigen immunoassay of acetylcholinesterase in amniotic fluid. Scand J Clin Lab Invest 49:503-11.</li> <li>3. Aziz-Aloya R, Sternfeld M, Soreq H (1993) Promoter elements and alternative splicing in the human ACHE gene. Prog Brain Res 98:147-153.</li> <li>4. Sorensen K, Gentinetta R, Brodbeck U (1982) An amphiphile-dependent form of human brain caudate nucleus acetylcholinesterase: purification and properties. J Neurochem 39:1050-1060.</li> </ol>
------------	--

**CONDITIONS**

All products are supplied on the understanding that they are for in vitro use only. The information and product are offered without guarantee as the ultimate conditions of use are beyond our control. The animals from which this product was derived have not been exposed to or inoculated with any livestock or poultry disease agents exotic to the United States or Western Europe, and did not originate from facilities where work with exotic disease agents affecting livestock or avian species is carried out.

**CONDITIONS**

All products are supplied on the understanding that they are for in vitro use only. The information and product are offered without guarantee as the ultimate conditions of use are beyond our control. The animals from which this product was derived have not been exposed to or inoculated with any livestock or poultry disease agents exotic to the United States or Western Europe, and did not originate from facilities where work with exotic disease agents affecting livestock or avian species is carried out.