

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

Subclass: IgG1/I

CAT. NO.

**HYB 190-01**

Clone:4E11

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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.
IMMUNOGEN	C-terminal 10 residues of brain acetylcholinesterase (human and bovine), absent from the erythrocyte enzyme.
TESTED APPLICATIONS	ELISA, WB, IHC
SPECIES REACTIVITY (POSITIVE)	Human, bovine, torpedo marmorata
SPECIES REACTIVITY (NEGATIVE)	Electric eel, human
EPITOPE SPECIFICITY	C-terminal 10 residues (aa 574-583) of brain acetylcholinesterase (DS-AChE and SS-AChE) (1).

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## PRESENTATION

Content:	Available in 200 µL and 1 mL size. 1 mg/mL +/- 15%. See Certificate of Analysis for details.
Preparation:	Protein-A purified
Form:	Liquid
Solvent:	0.01 M phosphate buffer, pH 7.4, containing 0.5 M NaCl and 15 mM sodium azide
Storage:	4-8°C without exposure to light. No precautions necessary during handling.

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## APPLICATION

**ELISA:** 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).

**WB:** 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. In Western blotting a dilution guideline of 1/75 has proved successful (1).

**IHC:** HYB 190-01 can be used in Immunohistochemistry.

## TARGET

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.

## REFERENCES

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.

## CONDITIONS

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