

## DESCRIPTION

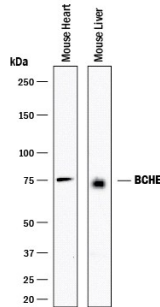
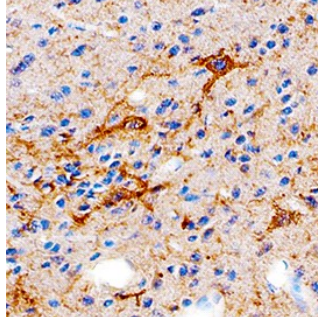
<b>Species Reactivity</b>	Mouse/Rat
<b>Specificity</b>	Detects mouse and rat Butyrylcholinesterase/BCHE in direct ELISAs and Western blots.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Chinese hamster ovary cell line CHO-derived recombinant mouse Butyrylcholinesterase/BCHE His28-Leu603 Accession # AAH99977
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
<b>Western Blot</b>	1 µg/mL	See Below
<b>Immunohistochemistry</b>	5-15 µg/mL	See Below

## DATA

Western Blot	Immunohistochemistry
 <p><b>Detection of Mouse Butyrylcholinesterase/BCHE by Western Blot.</b> Western blot shows lysates of mouse heart tissue and mouse liver tissue. PVDF membrane was probed with 1 µg/mL of Goat Anti-Mouse/Rat Butyrylcholinesterase/BCHE Polyclonal Antibody (Catalog # AF9024) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for Butyrylcholinesterase/BCHE at approximately 75 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.</p>	 <p><b>Butyrylcholinesterase/BCHE in Mouse Brain.</b> Butyrylcholinesterase/BCHE was detected in perfusion fixed frozen sections of mouse brain using Goat Anti-Mouse/Rat Butyrylcholinesterase/BCHE Antigen Affinity-purified Polyclonal Antibody (Catalog # AF9024) at 5 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell &amp; Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Specific staining was localized to glial cells. View our protocol for <a href="#">Chromogenic IHC Staining of Frozen Tissue Sections</a>.</p>

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

Butyrylcholinesterase (BCHE) is a major acetylcholine hydrolyzing enzyme in the circulation (1). Although it is present in significant amounts (~3 mg/L) in human plasma, no endogenous physiological substrate has been described for this enzyme. It can degrade a large number of ester-containing compounds in addition to acylcholines. Thus, it is likely to play significant pharmacological and toxicological roles. It is thought to be involved in the pathological process of Alzheimer's disease (AD) by depleting acetylcholine. In contrast to AChE, it attenuates amyloid fibril formation *in vitro* (2). BCHE inhibitors have been used to delay symptoms of AD patients by virtue of their ability to enhance acetylcholine availability (3). Its involvement in a cholinergic anti-inflammatory pathway connect BCHE and AChE with a possible marker of low-grade systemic inflammation observed in Type-2 diabetes, obesity, hypertension, coronary heart disease, and AD (4). BCHE can exist in monomeric and multimeric forms (1).

### References:

1. Darvesh, S. *et al.* (2003) *Nat. Rev. Neuroscience* **4**:131.
2. Diamant, S. *et al.* (2006) *Proc. Natl. Acad. Sci. USA* **103**:8628.
3. Campbell, V. A. and Gowran, A. (2007) *Br. J. Pharm.* **152**:655.
4. Das, U. N. (2007) *Med Sci Monit.* **13**:RA214.