

## Active Recombinant Human $\beta$ -Secretase 1 (BACE-1)

<b>CATALOG #:</b>	7609-5	5 $\mu$ g
	7609-50	50 $\mu$ g
	7609-1000	1 mg
<b>SOURCE:</b>	Insect Cells	
<b>PURITY:</b>	$\geq 90\%$ by SDS-PAGE	
<b>MOL. WEIGHT:</b>	47 kDa (mature protease domain, 46-460aa)	
<b>SPECIFIC ACTIVITY:</b>	$\geq 10$ mU/mg	
<b>FORMULATION:</b>	Supplied in PBS with 50% glycerol	
<b>STORAGE CONDITIONS:</b>	Stable for 1 year at $-70$ °C. Avoid multiple freeze/thaw cycles as activity may decrease.	

### DESCRIPTION:

Beta-Secretase, also called BACE1 ( $\beta$ -site of APP cleaving enzyme) or memapsin-2 is an aspartic-acid protease important in the pathogenesis of Alzheimer's disease, and in the formation of myelin sheaths in peripheral nerve cells. The transmembrane protein contains two active site aspartate residues in its extracellular protein domain.

### APPLICATIONS:

Active recombinant human BACE-1 is useful in studying enzyme regulation, determining target substrates, screening BACE inhibitors, or as a positive control in BACE activity assays. BioVision's recombinant BACE-1 produced in insect cells is about 200 times higher in specific activity relative to that produced in *E. coli*.

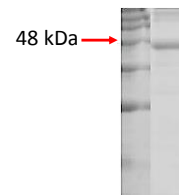
### BIOLOGICAL ACTIVITY:

BioVision's recombinant human beta-Secretase/BACE-1 is biologically active as determined by using the  $\beta$ -Secretase Activity Assay Kit (Cat# K388-100).

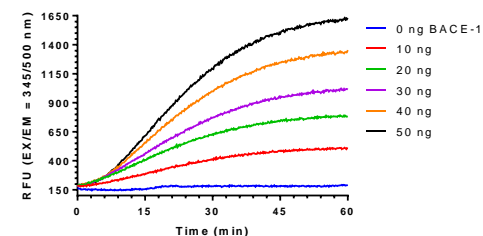
### UNIT DEFINITION:

One unit is defined as the amount of enzyme that produces 1  $\mu$ mol/min EDANS by hydrolyzing the substrate BVT9964 ( $\text{NH}_2$ -Arg-Glu(EDANS)-Glu-Val-Asn-Leu-Asp-Ala-Glu-Phe-Lys(DABCYL)-Arg-COOH) at  $37^\circ\text{C}$  in 100 mM acetate buffer pH 4.0.

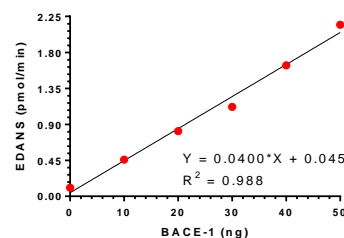
(A)



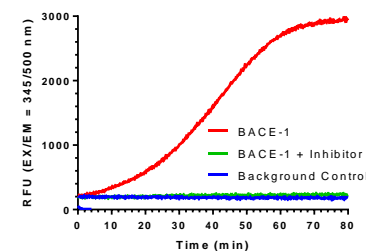
(B)



(C)



(D)



(A) SDS-PAGE of BACE-1 purified from Insect cells. (B) Dose-dependence of the release of EDANS using BioVision's  $\beta$ -Secretase (BACE1) Activity Assay Kit II (Fluorometric). (K388-100). (C) Rate of the release of EDANS vs BACE-1. The Specific Activity of this particular Lot of BACE-1 is  $\sim 40$  mU/mg ( $40 \text{ pmol} \cdot \text{min}^{-1} \cdot \mu\text{g}^{-1}$  or  $40 \text{ nmol} \cdot \text{min}^{-1} \cdot \text{mg}^{-1}$ ). (D) The activity of BACE-1 in the presence and absence of BACE-1 Inhibitor using BioVision's Human  $\beta$ -Secretase 1 Inhibitor Screening Kit (Fluorometric) (K720-100).

### Related Products:

- BACE Antibody (CT) (Cat. No. 5051-100)
- BACE2 Antibody (CT) (Cat. No. 5047-100)
- BACE2 Antibody (NT) (Cat. No. 5046-100)
- Secretase-beta, human recombinant (Cat. No. 7604-20, -100, -1000)
- $\beta$ -Secretase (BACE1) Activity Assay Kit II (Fluorometric) (Cat. No. K388-100)
- Human  $\beta$ -Secretase 1 Inhibitor Screening Kit (Fluorometric) (Cat. No. K720-100)
- $\beta$ -Secretase Activity Assay Kit (Fluorometric) (Cat. No. K360-100)

**FOR RESEARCH USE ONLY! Not to be used on humans.**