

Beta-Secretase (BACE1) Activity Assay Kit (Fluorometric) ab282921

[3 Images](#)

Overview

Product name	Beta-Secretase (BACE1) Activity Assay Kit (Fluorometric)
Detection method	Fluorescent
Sample type	Tissue, Adherent cells, Suspension cells
Assay type	Enzyme activity (quantitative)
Sensitivity	0.2 μ U
Product overview	This Beta-Secretase (BACE1) Activity Assay Kit (Fluorometric), (ab282921) provides a fast and easy method for measuring BACE1 activity in a variety of samples. In this kit, a secretase-specific peptide is conjugated with two reporter molecules, EDANS and DABCYL. In the uncleaved form, the fluorescent emissions from EDANS are quenched by the physical proximity of the DABCYL moiety. Cleavage of the peptide by BACE1 separates EDANS and DABCYL groups allowing for the release of a strong fluorescent signal (Ex/Em= 345/500 nm). The level of secretase activity in samples is proportional to the level of fluorescence intensity. The assay is simple, sensitive, high-throughput adaptable and can detect BACE1 activity as low as 0.2 μ U per sample.

Species activity: Eukaryotes

Notes	<p>This product is manufactured by BioVision, an Abcam company and was previously called K388 β-Secretase (BACE1) Activity Assay Kit (Fluorometric). K388-100 is the same size as the 100 test size of ab282921.</p> <p>β-Secretase (EC 3.4.23.46), also called BACE1 (β-site of APP cleaving enzyme) or memapsin-2 (membrane-associated aspartic protease), is an aspartic-acid protease. Along with γ-secretase, BACE1 cleaves the APP (Membrane-anchored amyloid precursor protein) and generates soluble amyloid-β (Aβ). Accumulation of Aβ is the key event for pathogenesis of Alzheimer's disease, thus monitoring and targeting BACE1 activity are important for the study and development of therapeutic strategies that could alleviate/cure Alzheimer's disease. Recent studies have shown that inhibiting BACE1 activity with synthetic compounds helped to slow or arrest Alzheimer's disease symptoms.</p>
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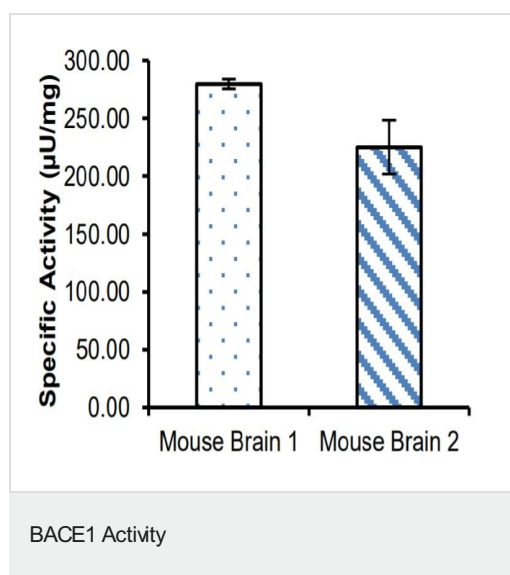
Properties

Storage instructions	Store at -80°C. Please refer to protocols.
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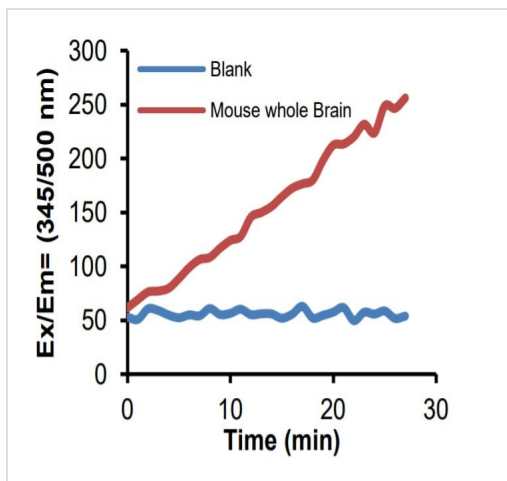
Components	100 tests
β -Secretase Extraction Buffer	1 x 25ml
β -Secretase Inhibitor Control	1 x 100 μ l
β -Secretase Reaction Buffer	1 x 10ml
β -Secretase Substrate	1 x 200 μ l
Active β -Secretase	1 x 20 μ l
EDANS Standard	1 x 100 μ l

Function	Responsible for the proteolytic processing of the amyloid precursor protein (APP). Cleaves at the N-terminus of the A-beta peptide sequence, between residues 671 and 672 of APP, leads to the generation and extracellular release of beta-cleaved soluble APP, and a corresponding cell-associated C-terminal fragment which is later released by gamma-secretase.
Tissue specificity	Expressed at high levels in the brain and pancreas. In the brain, expression is highest in the substantia nigra, locus coeruleus and medulla oblongata.
Sequence similarities	Belongs to the peptidase A1 family.
Domain	The transmembrane domain is necessary for its activity. It determines its late Golgi localization and access to its substrate, APP.
Post-translational modifications	Glycosylated.
Cellular localization	Membrane. Golgi apparatus > trans-Golgi network. Endoplasmic reticulum. Endosome. Cell surface. Predominantly localized to the later Golgi/trans-Golgi network (TGN) and minimally detectable in the early Golgi compartments. A small portion is also found in the endoplasmic reticulum, endosomes and on the cell surface.

Images

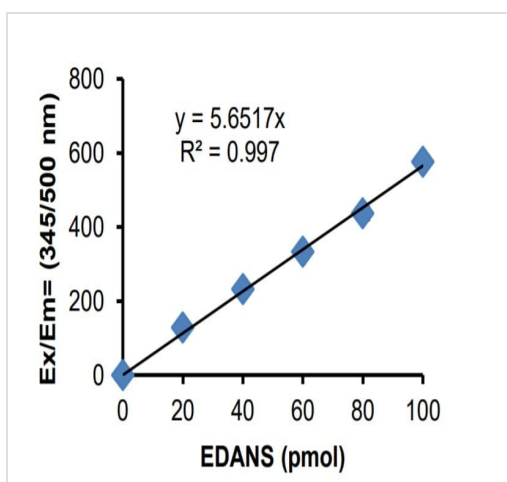


Relative BACE1 Activity was calculated in lysates (4 μ g) prepared from mouse whole brain (Sample 1) and mouse whole brain (Sample 2). Assays were performed following the kit protocol.



Kinetic measurement of BACE1 activity in mouse whole brain lysate (4 µg).

Kinetic Measurement of BACE1 Activity



EDANS Standard Curve.

Standard Curve

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