Acetylcholinesterase Inhibitor Screening Kit (Colorimetric) ab283363

Overview

Product name: Acetylcholinesterase Inhibitor Screening Kit (Colorimetric)
Detection method: Colorimetric
Sample type: Inhibitor compounds
Assay type: Quantitative
Assay duration: Multiple steps standard assay

Product overview:
Acetylcholinesterase is the main cholinesterase enzyme in the nervous system. It is responsible for the hydrolysis of acetylcholine and some other choline esters that function as neurotransmitters. AChE is highly expressed in both the brain and the peripheral nervous system. It is especially enriched at neuromuscular junctions, where its activity serves to terminate synaptic transmission between motor neurons and skeletal muscles. Reversible inhibitors of AChE (such as donepezil, rivastigmine and galantamine) are commonly used in the treatment of Alzheimer’s Disease and other neurodegenerative disorders. However, irreversible inhibitors of AChE tend to be extremely poisonous, causing muscular paralysis, convulsions, bronchial constriction and eventual death by asphyxia.

Notes:
This product is manufactured by BioVision, an Abcam company and was previously called K197 Acetylcholinesterase Inhibitor Screening Kit (Colorimetric). K197-100 is the same size as the 100 test size of ab283363.

Platform:
Microplate (12 x 8 well strips)

Storage instructions:
Store at -20°C. Please refer to protocols.

Properties

<table>
<thead>
<tr>
<th>Components</th>
<th>Identifier</th>
<th>100 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetylcholinesterase</td>
<td>Green cap</td>
<td>1 vial</td>
</tr>
<tr>
<td>Acetylcholinesterase Assay Buffer</td>
<td>NM</td>
<td>1 x 50ml</td>
</tr>
<tr>
<td>Acetylcholinesterase Substrate</td>
<td>Purple cap</td>
<td>1 vial</td>
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</tbody>
</table>
Function
Terminates signal transduction at the neuromuscular junction by rapid hydrolysis of the acetylcholine released into the synaptic cleft. Role in neuronal apoptosis.

Tissue specificity
Isoform H is highly expressed in erythrocytes.

Sequence similarities
Belongs to the type-B carboxylesterase/lipase family.

Cellular localization
Cell membrane; Cell junction > synapse. Secreted. Cell membrane and Nucleus. Only observed in apoptotic nuclei.

Function
Inhibition of Acetylcholinesterase activity by Donepezil. IC$_{50}$ of Donepezil was calculated to be 31.5 ± 2.3 nM.

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