

Product datasheet

D-Amino Acid Assay Kit (Fluorometric) ab239721

3 Images

Overview

Product name	D-Amino Acid Assay Kit (Fluorometric)
Detection method	Fluorescent
Sample type	Saliva, Other biological fluids, Tissue, Cerebral Spinal Fluid
Product overview	D-Amino Acid Assay Kit (Fluorometric) (ab239721) provides a quick, specific and easy method for measuring total D-Amino acid concentrations in a wide variety of samples. In this assay, D-Amino acids are converted into an intermediate by the DAA enzyme mix that will further react with a probe to produce a strong fluorescence signal (Ex/Em= 535/587nm). The kit is simple to use, sensitive and high-throughput adaptable and can detect as low as 1.9 µM of D-Amino acids in biological samples.
Platform	Microplate reader

Properties

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

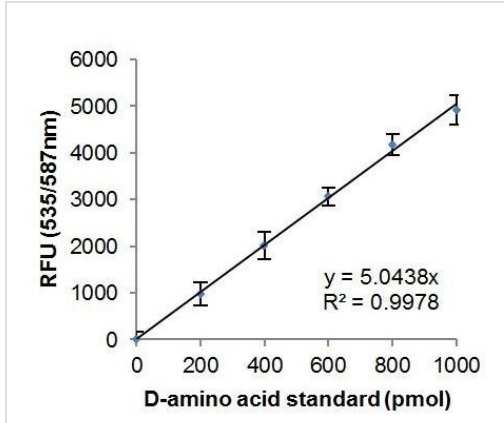
Components	100 tests
DAA Assay Buffer	1 x 25ml
DAA Cofactor	1 vial
DAA Developer Mix	1 vial
DAA Enzyme Mix	1 vial
DAA Probe	1 x 200µl
DAA Standard	1 vial

Relevance

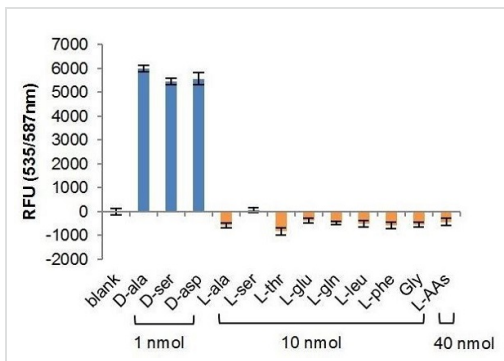
D-Amino acids are present in both eukaryotes and prokaryotes. D-Amino acids act as a component of the cell wall in prokaryotes and a neurological regulator in eukaryotes. In mammals, D-Amino acids play an important role in physiological functions and their levels are regulated by D-Amino acid oxidase in the central nervous systems. Some important D-Amino acids include D-serine, D-aspartate and D-alanine. D-serine acts as a modulator of N-Methyl-D-aspartate receptor (NMDA receptor, NMDAR), while D-aspartate and D-alanine have been found to be elevated in the white and the gray matter respectively in patients' brains suffering Alzheimer's

disease. The abnormal levels of D-Amino acids could be used as a marker of neurological diseases: total D-Amino acid concentration in cerebrospinal fluid (CSF) has been shown to be higher in patients with Alzheimer's disease when compared to samples from healthy donors.

Images

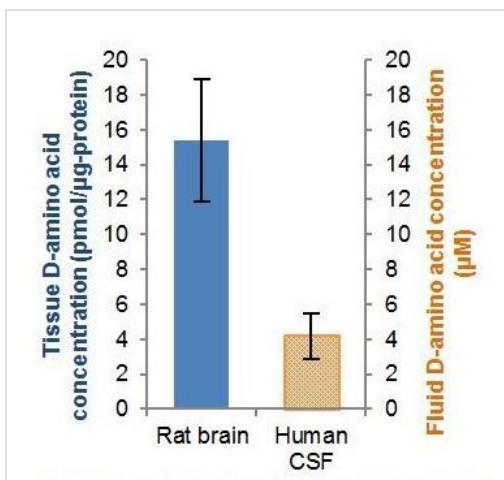


D-Amino Acid standard curve.



Assay specificity

L-Amino acids were tested at a 10-fold molar excess (10 nmol each) and 40-fold molar excess for a mixture of L-amino acids (40 nmol total).



Estimations of total D-Amino acids in rat brain samples and pooled normal human CSF (15 µl).

D-Amino acid concentrations were 15.4 pmol/µg-protein in rat brain and 4.2 µM in human CSF.

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