

## D-Amino Acid Assay Kit

D-Amino Acid Assay Kit (Colorimetric)

CATALOG #

**AAA44680**

### PRODUCT SYNONYMS

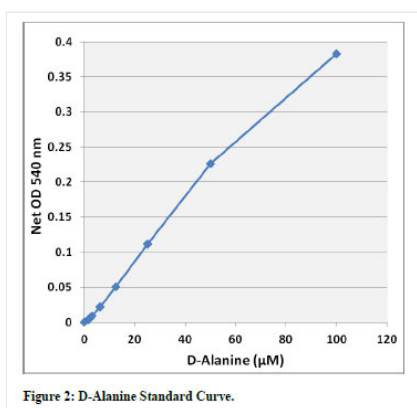
D-Amino Acid; D-Amino Acid Assay Kit (Colorimetric); D-Amino Acid assay kit

### PRODUCT SPECIFICATIONS

#### Preparation and Storage

Upon receipt, store the D-Amino Acid Oxidase at -80 degree C. Store all other components at -20 degree C. The Colorimetric Probe is light sensitive and must be stored accordingly. Avoid multiple freeze/thaw cycles.

### IMAGES



Standard Curve (Sample)

## ADDITIONAL INFORMATION

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| <b>Related Product Information for D-Amino Acid assay kit</b> | <p>Principle of the Assay: Cell Biolabs' D-Amino Acid Assay Kit (Colorimetric) measures free D-Amino Acids (except for D-Glutamate and D-Aspartate) present in foods or biological samples in a 96-well microtiter plate format. D-amino acids are oxidatively deaminated by D-Amino Acid oxidase into the corresponding alpha-keto acid, ammonia, and hydrogen peroxide. The hydrogen peroxide is then detected with a highly specific colorimetric probe. Horseradish peroxidase catalyzes the reaction between the probe and hydrogen peroxide, which bind in a 1:1 ratio. Samples and standards are read with a standard 96-well colorimetric plate reader. Samples are compared to a known concentration of D-Alanine standard within the 96-well microtiter plate format (Figure 1).</p> <p>Background/Introduction: D-Amino acids are amino acids where the stereogenic carbon, or chiral carbon, next to the amino group has the D-configuration. "D" stands for dextrorotary, meaning that the isomer rotates plane polarized light clockwise. For most naturally-occurring amino acids, the chiral carbon has the L-configuration, although D-Amino acids are sometimes found as residues in proteins. D-Amino acids have been found in various foods such as fruits, vegetables, milk, cheese, meats, and fish. While D-amino acids are not detected in human serum, micromolar levels can be detected in the mammalian brain and endocrine systems of humans and mice. For example, D-serine is released from neurons, through alanine-serine-cysteine transporter-1 (Asc-1) or other pathways, into the synapse where it can bind and affect NMDA receptor activity. D-serine induces long term potentiation (LTP, a model of learning and memory), and breakdown of D-serine by D-amino acid oxidase causes suppression of LTP induction. Aberrant levels of D-serine are associated with diseases caused by abnormal NMDA receptor activity. Increased levels of D-serine in the cerebrospinal fluid (CSF) have been detected in patients with Alzheimer's disease compared to normal controls. Decreased D-serine levels (which lowers NMDA receptor signaling) is associated with schizophrenia-like symptoms. Cell Biolabs' D-Amino Acid Assay Kit (Colorimetric) is a simple colorimetric assay that measures the total amount of free D-Amino Acids present in biological samples (except for D-glutamate and D-aspartate) in a 96-well microtiter plate format. Amino Acids found in polypeptide chains (peptides and proteins) are not detected. Each kit provides sufficient reagents to perform up to 100 assays*, including blanks, standards and unknown samples. Sample D-Amino Acid concentrations are determined by comparison with a known D-Alanine standard. The kit has a detection sensitivity limit of 1.56 uM D-Amino Acids.</p> |
| <b>Product Categories/Family for D-Amino Acid assay kit</b>   | Metabolism Research; Amino Acid Metabolism                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

**For Research Use Only.** Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/assay-kits/d-amino-acid/44680>