

Human alcohol dehydrogenase 1A (class I) , alpha polypeptide ELISA Kit | ADH1A elisa kit

Human alcohol dehydrogenase, ADH ELISA Kit

CATALOG #
AAA79693

REACTIVITY
Human

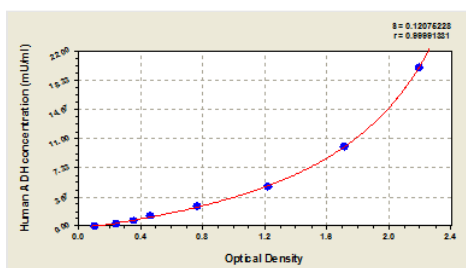
PRODUCT SYNONYMS

alcohol dehydrogenase 1A (class I); alpha polypeptide; Human alcohol dehydrogenase; ADH ELISA Kit; ADH1; ADH; alpha subunit; alcohol dehydrogenase 1 (class I); aldehyde reductase; class I alcohol dehydrogenase; ADH1A elisa kit

PRODUCT SPECIFICATIONS

Reactivity	Human
Specificity	This assay has high sensitivity and excellent specificity for detection of Human ADH1A. No significant cross-reactivity or interference between Human ADH1A and analogues was observed.
Sequence Length	375
Samples	Serum, plasma, cell culture supernates, tissue homogenates, Cell lysates
Detection Range	0.312 mU/ml-20 mU/ml
Sensitivity	0.078 mU/ml
Intra-assay Precision	Intra-assay Precision (Precision within an assay): CV% is less than 8% Three samples of known concentration were tested twenty times on one plate to assess. Inter-assay Precision (Precision between assays): CV% is less than 10% Three samples of known concentration were tested in twenty assays to assess.
Detection Wavelength	450 nm
Sample Volume	50-100ul
Preparation and Storage	Unopened test kits should be stored at 2 to 8 degree C upon receipt. Please refer to pdf manual for further storage instructions.

IMAGES



Standard Curve (Sample)

ADDITIONAL INFORMATION

Related Product Information for ADH1A elisa kit	Introduction: Alcohol dehydrogenase (ADH) is an enzyme discovered in the mid-1960s in <i>Drosophila melanogaster</i>. Since then, there has been extensive research on the enzyme. Alcohol dehydrogenase is a dimer, weighing 80 kDa. Alcohol dehydrogenases are a group of seven dehydrogenase enzymes that occur in many organisms and facilitate the interconversion between alcohols and aldehydes or ketones with the reduction of NAD⁺ to NADH. In humans and many other animals, they serve to break down alcohols which could otherwise be toxic; in yeast and many bacteria, some alcohol dehydrogenases catalyze the opposite reaction as part of fermentation. In humans, alcohol is metabolized by a rate of 1 ounce or 7 to 10 g/hour. Alcohol dehydrogenase is responsible for catalyzing oxidation of primary and secondary alcohols to aldehydes and ketones, respectively, and also can effect the reverse reaction. It does not work well with primary alcohols. Instead, it works the best with secondary and cyclic alcohols. In humans, it exists in multiple forms as a dimer and is encoded by at least seven different genes. There are five classes (I-V) of alcohol dehydrogenase, but the hepatic form that is primarily used in 3 humans is class 1. Class 1 consists of A,B, and C subunits that are encoded by the genes ADH1A, ADH1B, and ADH1C. The enzyme is contained in the lining of the stomach and in the liver. It catalyzes the oxidation of ethanol to acetaldehyde. This allows the consumption of alcoholic beverages, but its evolutionary purpose is probably the breakdown of alcohols naturally contained in foods or produced by bacteria in the digestive tract. Alcohol dehydrogenase is also involved in the toxicity of other types of alcohol: for instance, it oxidizes methanol to produce formaldehyde and ethylene glycol to ultimately yield glycolic and oxalic acids. Humans have at least six slightly different alcohol dehydrogenases. All of them are dimers (consist of two polypeptides), with each dimer containing two zinc ions Zn²⁺. One of those ions is crucial for the operation of the enzyme: it is located at the catalytic site and holds the hydroxyl group of the alcohol in place. Principle of the Assay: The microtiter plate provided in this kit has been pre-coated with an antibody specific to ADH. Standards or samples are then added to the appropriate microtiter plate wells with a biotin-conjugated antibody preparation specific for ADH and Avidin conjugated to 4 Horseradish Peroxidase (HRP) is added to each microplate well and incubated. Then a TMB (3,3',5,5' tetramethyl-benzidine) substrate solution is added to each well. Only those wells that contain ADH, biotin-conjugated antibody and enzyme-conjugated Avidin will exhibit a change in color. The enzyme-substrate reaction is terminated by the addition of a sulphuric acid solution and the color change is measured spectrophotometrically at a wavelength of 450 nm +/- 2 nm. The concentration of ADH in the samples is then determined by comparing the O.D. of the samples to the standard curve.
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NCBI AND UNIPROT INFORMATION

NCBI GI #	4501929
NCBI GeneID	124
NCBI Accession #	NP_000658.1
NCBI GenBank Nucleotide #	NM_000667.3
UniProt Accession #	P07327 ; Q17R68 ; A8K3E3
Molecular Weight	39,859 Da
NCBI Official Full Name	alcohol dehydrogenase 1A
NCBI Official Synonym Full Names	alcohol dehydrogenase 1A (class I), alpha polypeptide
NCBI Official Symbol	ADH1A
NCBI Official Synonym Symbols	ADH1
NCBI Protein Information	alcohol dehydrogenase 1A; ADH, alpha subunit; aldehyde reductase; alcohol dehydrogenase subunit alpha; alcohol dehydrogenase 1 (class I), alpha polypeptide
UniProt Protein Name	Alcohol dehydrogenase 1A
UniProt Gene Name	ADH1A
UniProt Synonym Gene Names	ADH1
UniProt Entry Name	ADH1A_HUMAN

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/adh1a-human-elisa-kits/alcohol-dehydrogenase-1a-class-i-alpha-polypeptide/79693>