SANTA CRUZ BIOTECHNOLOGY, INC.

ADH (dG-20): sc-22676

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Alcohol dehydrogenase (ADH) of *Drosophila melanogaster* is a paradigm for gene-enzyme molecular evolution and natural selection studies. This enzyme catalyzes the oxidation of many primary and secondary alcohols and is inhibited by 2,2,2-trifluoroethanol and pyrazole. The native enzyme is a dimer consisting of two identical subunits, each with a molecular weight of 27 kDa. ADH presents 3 main alleloforms (ADHs, ADHf, and ADHuf), differing by one or two substitutions that render different biochemical properties to the allelozymes. Nearly all natural populations of *Drosophila melanogaster* are polymorphic for two electrophoretically distinguishable alleles, ADHs and ADHf. Other naturally occuring alleles include ADH-JA-F, ADH-AF-S, ADH-F-CHD, ADH-F-CHD, ADH-71K, ADH-UF and ADH-F'. Substantial differences in ADH activity have been reported among *Drosophila* species and also in different allomorphs of the same species. *Drosophila* ADH belongs to a broad and heterogeneous family of alcohol dehydrogenases named short chain dehydrogenases/reductases, and is the only member that utilizes small alcohols as substrates.

REFERENCES

1. Eisses, K.T., et al. 1985. Evidence for a multiple function of the alcohol dehydrogenase allozyme ADH71k of *Drosophila melanogaster*. Comp. Biochem. Physiol. B. 82: 863-868.
2. Atrian, S., and Gonzalez-Duarte, R. 1985. Purification and molecular characterization of alcohol dehydrogenase from *Drosophila hydei*: conservation in the biochemical features of the enzyme in several species of *Drosophila*. Biochem. Genet. 23: 891-911.
3. Visa, N., et al. 1992. Developmental profile and tissue distribution of *Drosophila* alcohol dehydrogenase: an immunochemical analysis with monoclonal antibodies. J. Histochem. Cytochem. 40: 39-49.
4. Benach, J., et al. 2000. Structure-function relationships in *Drosophila melanogaster* alcohol dehydrogenase allozymes ADH(S), ADH(F) and ADH(UF), and distantly related forms. Eur. J. Biochem. 267: 3613-3622.
5. Swiss-Prot/TrEMBL (P00334). World Wide Web URL: http://www.expasy.ch/sprot/sprot-top.html

SOURCE

ADH (dG-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ADH of *Drosophila melanogaster* origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-22676 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

ADH (dG-20) is recommended for detection of ADH of *Drosophila melanogaster* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of ADH: 46 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.