SANTA CRUZ BIOTECHNOLOGY, INC.

DPYD (F-8): sc-376681

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Dihydropyrimidine dehydrogenase (DPYD) catalyzes the first rate-limiting step of the NADPH-dependent catabolism of uracil and thymine to dihydrouracil and dihydrothymine; thus, a deficiency of DPYD leads to an accumulation of uracil and thymine. Abnormal concentrations of these metabolites in bodily fluids may be the cause of neurological disease and a contraindication for treatment of cancer patients with certain pyrimidine analogs. DPYD also catalyzes the anticancer agent 5-fluorouracil (5-FU) pathway and is involved in the efficacy and toxicity of 5-FU. Variations in DPYD concentration may arise from alterations at the transcriptional level of the dihydropyrimidine dehydrogenase gene. Specifically, hypermethylation of the DPYD promoter downregulates dihydropyrimidine dehydrogenase expression. Deficient DPYD alleles may constitute a risk factor for severe toxicity following treatment with 5-FU.

CHROMOSOMAL LOCATION

Genetic locus: DPYD (human) mapping to 1p21.3; Dpyd (mouse) mapping to 3 G1.

SOURCE

DPYD (F-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 957-989 near the C-terminus of DPYD of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-376681 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

DPYD (F-8) is recommended for detection of DPYD of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

DPYD (F-8) is also recommended for detection of DPYD in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for DPYD siRNA (h): sc-45326, DPYD siRNA (m): sc-45327, DPYD shRNA Plasmid (h): sc-45326-SH, DPYD shRNA Plasmid (m): sc-45327-SH, DPYD shRNA (h) Lentiviral Particles: sc-45326-V and DPYD shRNA (m) Lentiviral Particles: sc-45327-V.

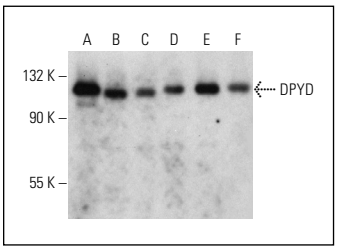
Molecular Weight of DPYD: 111 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, HeLa whole cell lysate: sc-2200 or COLO 320DM cell lysate: sc-2226.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



DPYD (F-8): sc-376681. Western blot analysis of DPYD expression in HeLa (**A**), Hep G2 (**B**), COLO 320DM (**C**), Neuro-2A (**D**), PC-12 (**E**) and C6 (**F**) whole cell lysates

SELECT PRODUCT CITATIONS

1. Kim, K.S., et al. 2018. Cytosolic HSC 20 integrates *de novo* iron-sulfur cluster biogenesis with the CIAO1-mediated transfer to recipients. Hum. Mol. Genet. 27: 837-852.
2. Maio, N., et al. 2019. Dimeric ferrochelatase bridges ABCB7 and ABCB10 homodimers in an architecturally defined molecular complex required for heme biosynthesis. Haematologica 104: 1756-1767.

RESEARCH USE

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

PROTOCOLS

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