

DPYD (D-8): sc-271308

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.

REFERENCES

1. Godtel, R., et al. 1978. Puerperal psychoses (author's transl). Geburtshilfe Frauenheilkd. 38: 304-316.
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5. Fischer, J., et al. 2003. Mutational analysis of the human dihydropyrimidine dehydrogenase gene by denaturing high-performance liquid chromatography. Genet. Test. 7: 97-105.
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CHROMOSOMAL LOCATION

Genetic locus: DPYD (human) mapping to 1p21.3.

SOURCE

DPYD (D-8) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of DPYD of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

DPYD (D-8) is recommended for detection of DPYD of 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).

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

Molecular Weight of DPYD: 111 kDa.

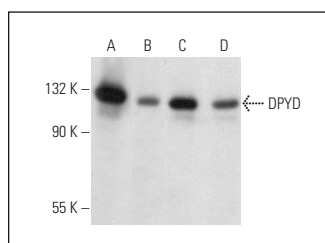
Positive Controls: COLO 320DM cell lysate: sc-2226, HL-60 whole cell lysate: sc-2209 or HeLa whole cell lysate: sc-2200.

RECOMMENDED SUPPORT REAGENTS

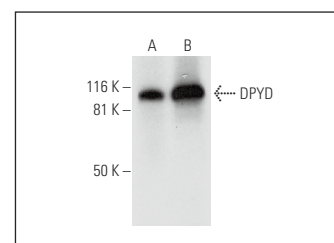
To ensure optimal results, the following support reagents are recommended:

- 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 (D-8): sc-271308. Western blot analysis of DPYD expression in HeLa (A), COLO 320DM (B), PC-12 (C) and C6 (D) whole cell lysates.



DPYD (D-8): sc-271308. Western blot analysis of DPYD expression in HL-60 (A) and HeLa (B) whole cell lysates.

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.