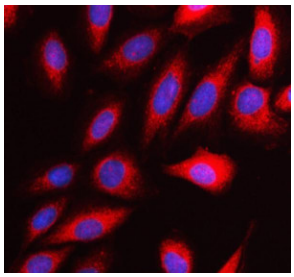
DPYD Antibody / DPD Antibody (RQ4203)

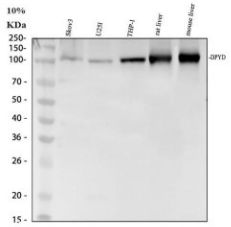
Catalog No.	Formulation	Size
RQ4203	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q12882
Applications	Western Blot: 0.5-1ug/ml Immunofluorescence: 5ug/ml Direct ELISA: 0.1-0.5ug/ml
Limitations	This DPYD Antibody / DPD Antibody is available for research use only.



DPYD Antibody Human Cervical Cancer Cell IF. Immunofluorescent staining of SiHa cells using DPYD antibody demonstrated predominantly cytoplasmic fluorescence, consistent with the localization of dihydropyrimidine dehydrogenase as a cytosolic enzyme responsible for pyrimidine and fluoropyrimidine metabolism. Cells were treated with enzyme antigen retrieval reagent for 15 minutes, blocked with 10% goat serum, and incubated with the primary antibody (5 ug/ml) overnight at 4Â°C. Cy3-conjugated goat anti-rabbit IgG was used as the secondary antibody, and nuclei were counterstained with DAPI (blue). This DPYD Antibody, also called a DPD Antibody, is useful for investigating pyrimidine catabolism, fluoropyrimidine metabolism, chemotherapy response, and cancer pharmacology.



DPYD Antibody Human, Mouse and Rat Liver WB. Western blot testing of human SKOV3 (lane 1), U251 (lane 2), THP-1 (lane 3), rat liver (lane 4), and mouse liver (lane 5) lysates using DPYD antibody detected a specific band at approximately 111 kDa, consistent with the expected molecular weight of dihydropyrimidine dehydrogenase. The strongest signals were observed in rat and mouse liver, in agreement with the well-established high hepatic expression of DPYD, the rate-limiting enzyme responsible for pyrimidine and fluoropyrimidine catabolism. This DPYD Antibody, also called a DPD Antibody, is useful for investigating pyrimidine metabolism, fluoropyrimidine metabolism, chemotherapy response, and cancer pharmacology.

Description

DPYD Antibody / DPD Antibody recognizes dihydropyrimidine dehydrogenase (DPYD, also called DPD), the rate-limiting enzyme responsible for pyrimidine catabolism. DPD catalyzes the reduction of uracil and thymine to their corresponding dihydropyrimidines using NADPH as a cofactor, initiating the degradation pathway for endogenous pyrimidine bases. Highly expressed in the liver and present in numerous other tissues, DPD is essential for maintaining nucleotide homeostasis and preventing the accumulation of pyrimidine metabolites that can disrupt normal cellular function.

Beyond its physiological role in pyrimidine metabolism, DPD is critically important in pharmacology because it is responsible for the initial and rate-limiting step in the degradation of the anticancer drug 5-fluorouracil (5-FU) and related fluoropyrimidines such as capecitabine. More than 80 percent of administered 5-FU is metabolized by DPD before reaching its cellular targets. Consequently, reduced DPYD activity markedly increases drug exposure and toxicity, making DPD one of the most clinically significant pharmacogenomic enzymes in oncology. Assessment of DPYD function has become an important component of individualized fluoropyrimidine therapy.

Inherited variants in the DPYD gene can reduce or abolish DPD activity, resulting in severe or life-threatening toxicity following standard fluoropyrimidine treatment. For this reason, DPYD genotyping and phenotyping are increasingly recommended before initiating chemotherapy in many clinical settings. Altered DPD expression has also been investigated as a biomarker for chemotherapy response, tumor biology, and resistance mechanisms in colorectal, gastric, breast, pancreatic, and other cancers. Continued research is expanding understanding of DPYD regulation and its broader roles in metabolism and cancer biology.

This rabbit polyclonal antibody was developed for sensitive detection of DPD in research applications. Its broad species reactivity makes it well suited for studies of pyrimidine catabolism, fluoropyrimidine metabolism, pharmacogenomics, chemotherapy response, and cancer biology. A DPYD Antibody is a valuable research tool for investigating DPD, pyrimidine metabolism, fluoropyrimidine metabolism, nucleotide homeostasis, and cancer pharmacology.

Visit our DPYD Antibody page to discover additional antibodies against this Pyrimidine Metabolism Enzyme, including reagents for studies of nucleotide catabolism, fluoropyrimidine metabolism, and cancer biology.

Application Notes

Optimal dilution of the DPYD Antibody / DPD Antibody should be determined by the researcher.

Immunogen

A recombinant human protein corresponding to amino acids A356-Y511 was used as the immunogen for the DPYD antibody.

Storage

After reconstitution, the DPYD antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

DPYD antibody, DPD antibody, Dihydropyrimidine Dehydrogenase antibody, Dihydropyrimidine Dehydrogenase (NADP+) antibody

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