

For Research Use Only

# MTHFD2 Polyclonal antibody

Catalog Number: 12270-1-AP

Featured Product

46 Publications



## Basic Information

### Catalog Number:

12270-1-AP

### Size:

150ul, Concentration: 500 ug/ml by Nanodrop;

### Source:

Rabbit

### Isotype:

IgG

### Immunogen Catalog Number:

AG2911

### GenBank Accession Number:

BC017054

### GeneID (NCBI):

10797

### UNIPROT ID:

P13995

### Full Name:

methylenetetrahydrofolate dehydrogenase (NADP+ dependent) 2, methenyltetrahydrofolate cyclohydrolase

### Calculated MW:

350 aa, 38 kDa

### Observed MW:

33-38 kDa

### Purification Method:

Antigen affinity purification

### Recommended Dilutions:

WB 1:1000-1:8000

IP 0.5-4.0 ug for 1.0-3.0 mg of total protein lysate

IHC 1:200-1:800

IF/ICC 1:200-1:800

## Applications

### Tested Applications:

WB, IHC, IF/ICC, IP, ELISA

### Cited Applications:

WB, IHC, IF, IP, CoIP

### Species Specificity:

human, mouse, rat

### Cited Species:

human, mouse

### Positive Controls:

WB : A549 cells, HEK-293T cells, Jurkat cells, mouse testis tissue, rat testis tissue, HCT 116 cells

IP : A549 cells, mouse testis tissue

IHC : human colon cancer tissue,

IF/ICC : HepG2 cells,

**Note-IHC: suggested antigen retrieval with TE buffer pH 9.0; (\*) Alternatively, antigen retrieval may be performed with citrate buffer pH 6.0**

## Background Information

Methylenetetrahydrofolate dehydrogenase 2 (MTHFD2) is a folate-coupled mitochondrial metabolic enzyme characterized by methylenetetrahydrofolate dehydrogenase and cyclohydrolase activity. It was demonstrated that suppression of MTHFD2 inhibits methylation reactions, decreases protein synthesis and disrupts redox homeostasis, which may ultimately result in significant changes in cellular metabolic phenotype. MTHFD2 is reported to be up-regulated in various tumours, such as lung adenocarcinoma (PMID: 34121323) and breast cancer (PMID: 34007312).

## Notable Publications

Author	Pubmed ID	Journal	Application
Francesc Baixauli	36171294	Nature	WB
Costas Koufaris	30275950	Cancer Metab	WB, CoIP
César Vázquez-Trincado	34550363	Hum Mol Genet	WB

## Storage

### Storage:

Store at -20°C. Stable for one year after shipment.

### Storage Buffer:

PBS with 0.02% sodium azide and 50% glycerol pH 7.3.

Aliquoting is unnecessary for -20°C storage

\*\*\* 20ul sizes contain 0.1% BSA

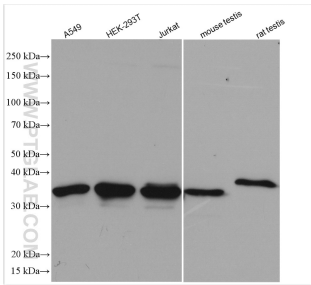
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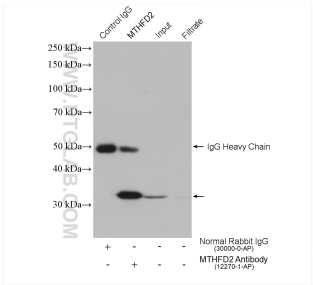
E: [proteintech@ptglab.com](mailto:proteintech@ptglab.com)  
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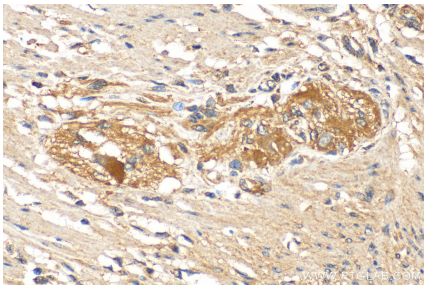
Selected Validation Data



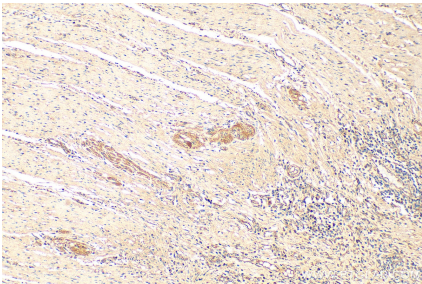
Various lysates were subjected to SDS PAGE followed by western blot with 12270-1-AP (MTHFD2 antibody) at dilution of 1:4000 incubated at room temperature for 1.5 hours.



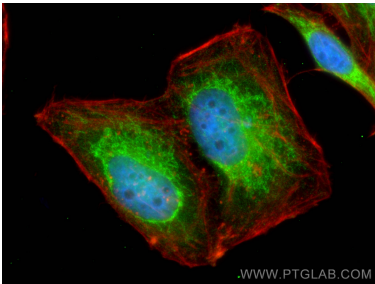
IP result of anti-MTHFD2 (IP:12270-1-AP, 4ug; Detection:12270-1-AP 1:4000) with A549 cells lysate 1480 ug.



Immunohistochemical analysis of paraffin-embedded human colon cancer tissue slide using 12270-1-AP (MTHFD2 antibody) at dilution of 1:400 (under 40x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



Immunohistochemical analysis of paraffin-embedded human colon cancer tissue slide using 12270-1-AP (MTHFD2 antibody) at dilution of 1:400 (under 10x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



Immunofluorescent analysis of (4% PFA) fixed HepG2 cells using MTHFD2 antibody (12270-1-AP) at dilution of 1:400 and CoraLite® 488-Conjugated Goat Anti-Rabbit IgG(H+L), CL594-Phalloidin (red).