

Rabbit Anti-CYB5R3 antibody

SL12162R

Product Name CYB5R3

Chinese Name 细胞色素 b5 还原酶 3 抗体

Alias B5R; Cyb5r3; Cytochrome b5 reductase 3; Cytochrome b5 reductase; DIA1; Diaphorase 1; Diaphorase-1; NADH cytochrome b5 reductase 3; NADH-cytochrome b5 reductase 3 membrane-bound form; NADH-cytochrome b5 reductase 3 soluble form; NB5R3_HUMAN; OTTHUMP00000028761; OTTHUMP00000198435; OTTHUMP00000198574; OTTHUMP00000198662; OTTHUMP00000198665.

Research Area Cardiovascular Cell biology Signal transduction Lipoprotein The new supersedes the old

Immunogen Species Rabbit

Clonality Polyclonal

React Species Human,Mouse,Rat(predicted:Chicken,Dog,Pig,Cow,Horse,Sheep)
WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500 (Paraffin sections need antigen repair)

Applications not yet tested in other applications.
optimal dilutions/concentrations should be determined by the end user.

Theoretical molecular weight 34kDa

Cellular localization cytoplasmic The cell membrane

Form Liquid

Concentration 1mg/ml

immunogen KLH conjugated synthetic peptide derived from human CYB5R3: 101-200/301

Lsotype IgG

Purification affinity purified by Protein A

Buffer Solution 1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.

Storage Shipped at 4°C. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.

Attention This product as supplied is intended for research use only, not for use in human, therapeutic

or diagnostic applications.

PubMed

[PubMed](#)

CYB5R3 is a 301 amino acid protein encoded by the human gene CYB5R3. CYB5R3 belongs to the flavoprotein pyridine nucleotide cytochrome reductase family and has two naturally occurring isoforms. Isoform 1 is anchored to the cytoplasmic side of the endoplasmic reticulum membrane and mitochondrion outer membrane, while isoform 2 is the soluble form found in erythrocytes. CYB5R3 is involved in the desaturation and elongation of fatty acids, cholesterol biosynthesis, drug metabolism and, in erythrocytes, methemoglobin reduction. A serine residue at position 117 seems to only be found in persons of African origin. The allele frequency is 0.23 in African Americans. It is not found in Caucasians, Asians, Indo-Aryans or Arabs. This difference seems to have no effect on the enzyme activity. Defects in CYB5R3 are the cause of hereditary methemoglobinemia (HM). There are three forms of this disease: type 1 (HM1), in which the enzyme is only deficient in erythrocytes with a mild cyanosis; type 2 (HM2), in which the enzyme is completely deficient; and type 3 (HM3), where the deficiency is seen in all blood cells. Type 2 is a severe form accompanied by mental retardation and neurological impairment.

Function:

Desaturation and elongation of fatty acids, cholesterol biosynthesis, drug metabolism, and, in erythrocyte, methemoglobin reduction.

**Product
Detail**

Subunit:

Component of a complex composed of cytochrome b5, NADH-cytochrome b5 reductase (CYB5R3) and MOSC2 (By similarity).

Subcellular Location:

Endoplasmic reticulum membrane. Mitochondrion outer membrane and Cytoplasm. Produces the soluble form found in erythrocytes.

Tissue Specificity:

Isoform 2 is expressed at late stages of erythroid maturation.

DISEASE:

Defects in CYB5R3 are the cause of methemoglobinemia CYB5R3-related (METHB-CYB5R3) [MIM:250800]. A form of methemoglobinemia, a hematologic disease characterized by the presence of excessive amounts of methemoglobin in blood cells, resulting in decreased oxygen carrying capacity of the blood, cyanosis and hypoxia. There are two types of methemoglobinemia CYB5R3-related. In type 1, the defect affects the soluble form of the enzyme, is restricted to red blood cells, and causes well-tolerated methemoglobinemia. In type 2, the defect affects both the soluble and microsomal forms of the enzyme and is thus generalized, affecting red cells, leukocytes and all body tissues. Type 2 methemoglobinemia is associated with mental deficiency and other neurologic symptoms.

Similarity:

Belongs to the flavoprotein pyridine nucleotide cytochrome reductase family. Contains 1 FAD-binding FR-type domain.

SWISS:

P00387

Gene ID:

1727

Database links:

[Entrez Gene: 1727](#) Human

[Entrez Gene: 25035](#) Rat

[Omid: 613213](#) Human

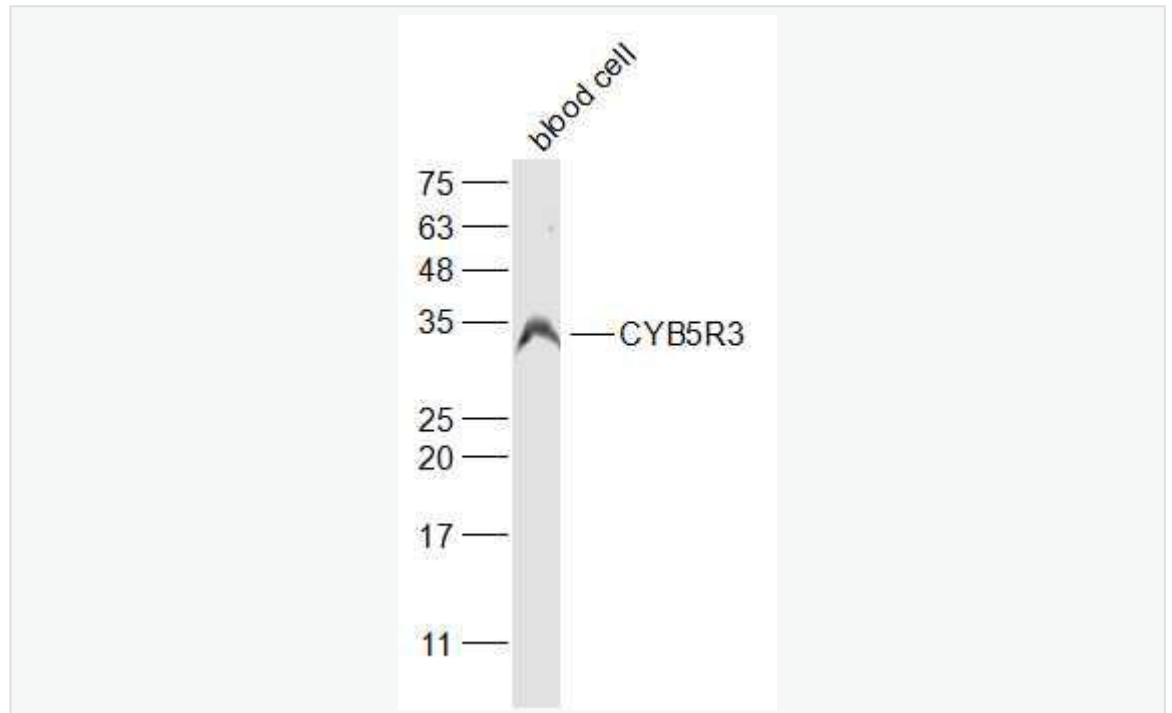
[SwissProt: P00387](#) Human

[SwissProt: P20070](#) Rat

[Unigene: 561064](#) Human

[Unigene: 35994](#) Rat

**Product
Picture**



Sample:

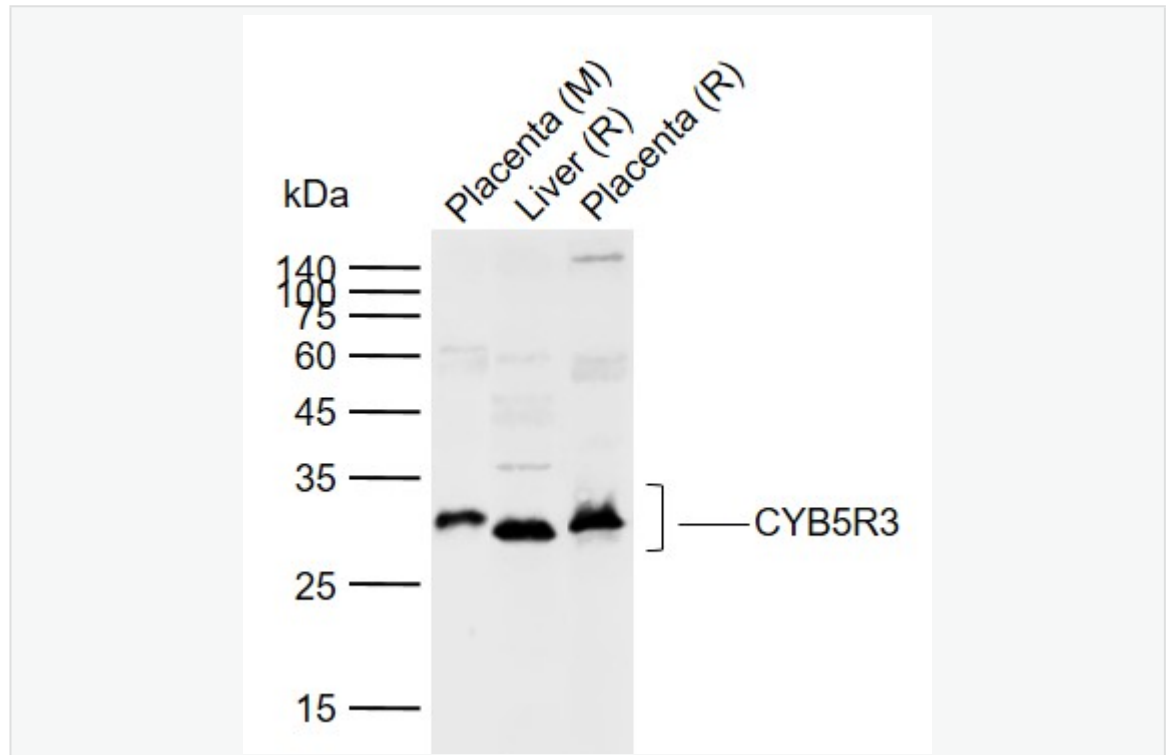
Blood(Mouse) Cell Lysate at 30 ug

Primary: Anti-CYB5R3 (SL12162R) at 1/1000 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 34 kD

Observed band size: 34 kD



Sample:

Lane 1: Mouse Placenta tissue lysates

Lane 2: Rat Liver tissue lysates

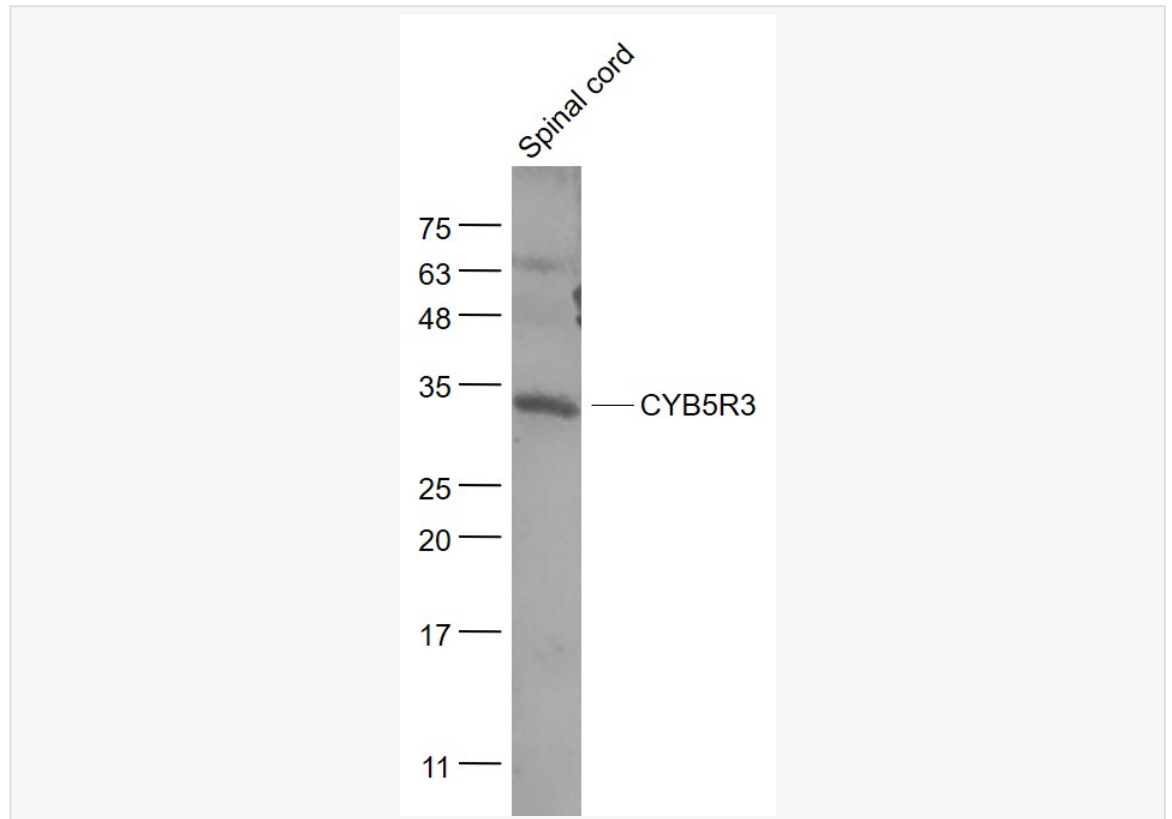
Lane 3: Rat Placenta tissue lysates

Primary: Anti- CYB5R3 (SL12162R) at 1/1000 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 34 kDa

Observed band size: 32 kDa



Sample:

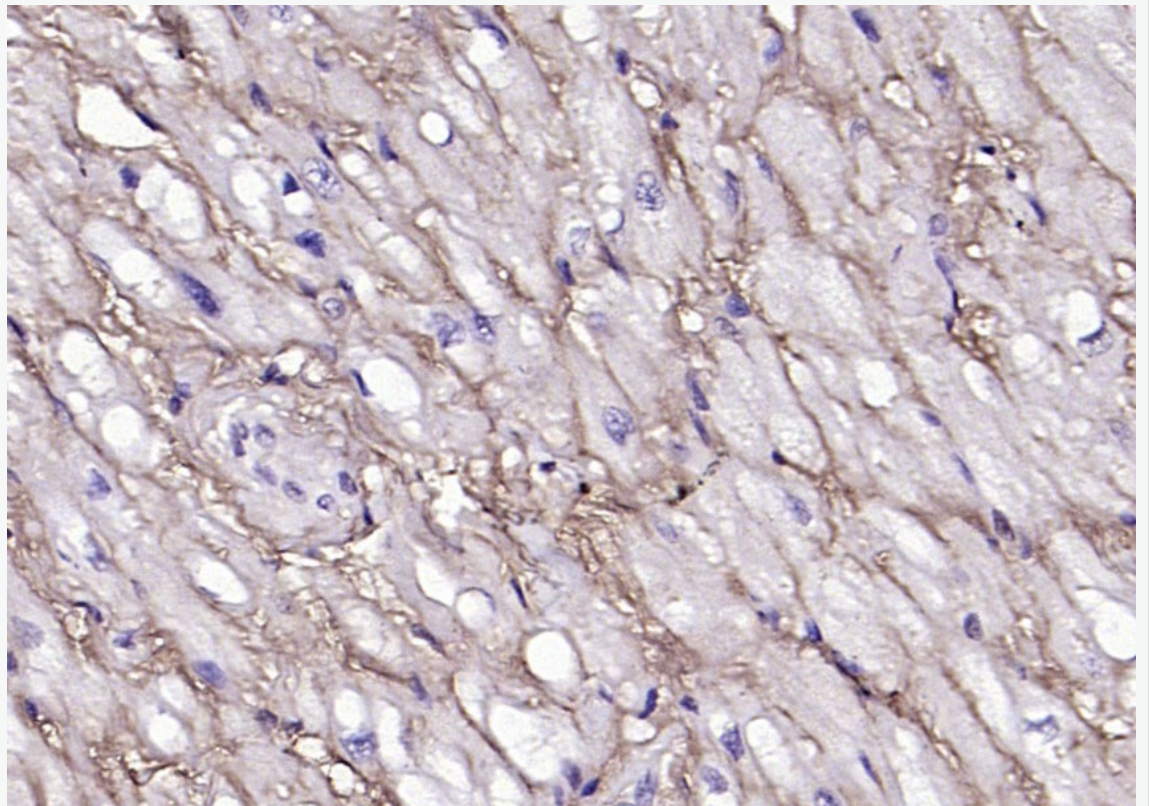
Spinal cord (Mouse) Lysate at 40 ug

Primary: Anti- CYB5R3 (SL12162R) at 1/1000 dilution

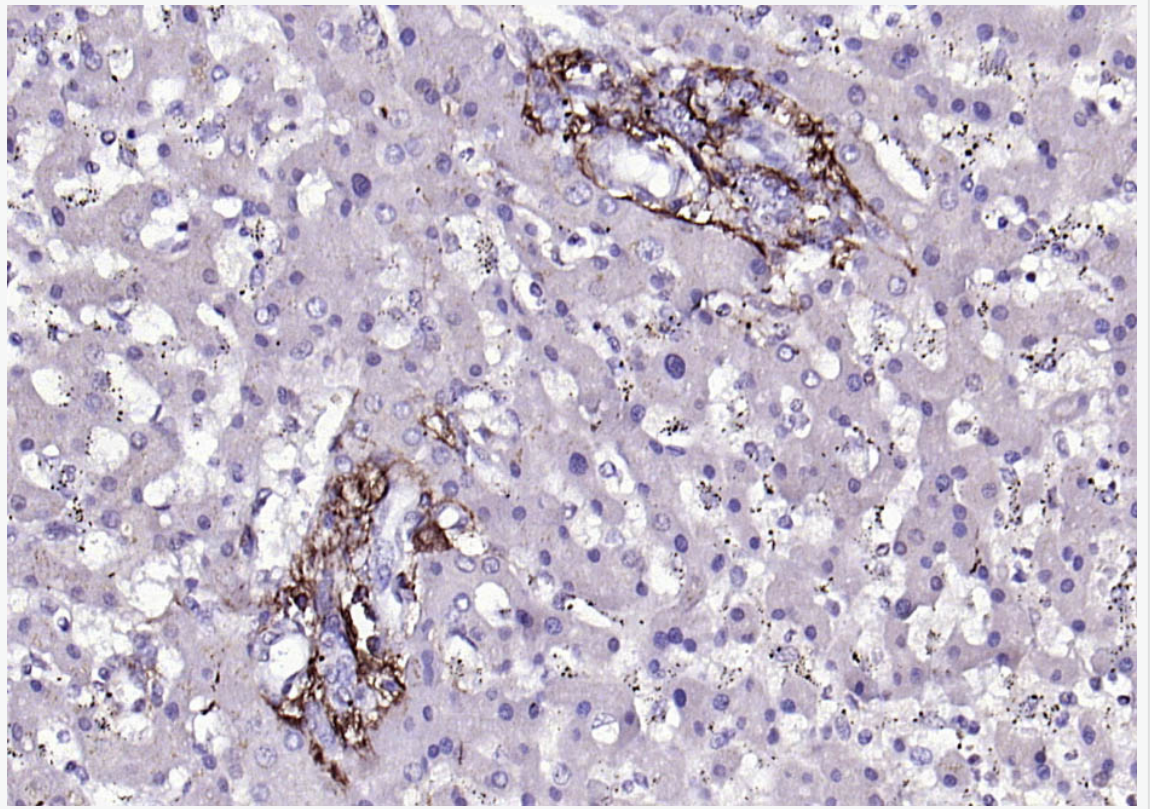
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 34 kD

Observed band size: 34 kD



Paraformaldehyde-fixed, paraffin embedded (human myocardium); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (CYB5R3) Polyclonal Antibody, Unconjugated (SL12162R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.



Paraformaldehyde-fixed, paraffin embedded (human liver); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (CYB5R3) Polyclonal Antibody, Unconjugated (SL12162R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.