bs-12162R **[Primary Antibody]**

CYB5R3 Rabbit pAb

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DATASHEET

Host: Rabbit **Isotype:** IgG

Clonality: Polyclonal

GeneID: 1727 **SWISS:** P00387

Target: CYB5R3

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

Purification: affinity purified by Protein A

Concentration: 1mg/ml

Storage: 0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
Shipped at 4°C. Store at -20°C for one year. Avoid repeated freeze/thaw cycles.

Background: 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 occuring 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.

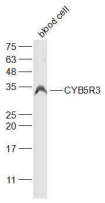
Applications: **WB** (1:500-2000)
IHC-P (1:100-500)
IHC-F (1:100-500)
IF (1:100-500)

Reactivity: Human, Mouse, Rat (predicted: Pig, Sheep, Cow, Chicken, Dog, Horse)

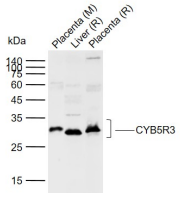
Predicted MW.: 34 kDa

Subcellular Location: Cell membrane ,Cytoplasm

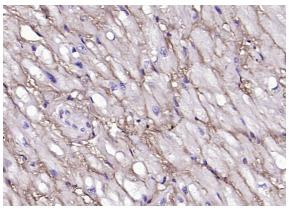
VALIDATION IMAGES



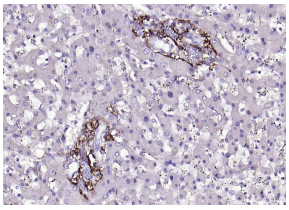
Sample: Blood(Mouse) Cell Lysate at 30 ug Primary: Anti-CYB5R3 (bs-12162R) at 1/1000 dilution Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution Predicted band size: 34 kD Observed band size: 34 kD



Sample: Lane 1: Mouse Placenta tissue lysates Lane 2: Rat Liver tissue lysates Lane 3: Rat Placenta tissue lysates Primary: Anti- CYB5R3 (bs-12162R) at 1/1000 dilution Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution Predicted band size: 34 kDa Observed band size: 32 kDa



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 (bs-12162R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand 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 (bs-12162R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.

SELECTED CITATIONS

- **[IF=12.8]** Im Joo-Young. et al. CYB5R3 functions as a tumor suppressor by inducing ER stress-mediated apoptosis in lung cancer cells via the PERK-ATF4 and IRE1α-JNK pathways. EXP MOL MED. 2024 Jan;:1-15 WB,IHC,IF ;Human,Mouse. 38253797