

Product name:	CYB5R3 Rabbit Polyclonal Antibody
Cat number:	ABN09575
Conjugate:	Unconjugated
Size:	100µL
Clone:	Polyclonal
Concentration:	1mg/ml
Host:	Rabbit
Isotype:	IgG
Immunogen:	The antiserum was produced against synthesized peptide derived from human CYB5R3. AA range:137-186
Reactivity:	Human,Rat,Mouse
Applications:	WB 1:500-1:2000,IHC 1:100-1:300,ICC/IF 1:50-1:200,ELISA 1:20000-1:40000
Molecular Weight:	34kDa
Purification:	Affinity purification
Form:	Liquid
Buffer:	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% New type preservative N.
Storage:	Store at 4°C short term. Aliquot and store at -20°C for 12 months. Avoid freeze/thaw cycles.

Background:

This gene encodes cytochrome b5 reductase, which includes a membrane-bound form in somatic cells (anchored in the endoplasmic reticulum, mitochondrial and other membranes) and a soluble form in erythrocytes. The membrane-bound form exists mainly on the cytoplasmic side of the endoplasmic reticulum and functions in desaturation and elongation of fatty acids, in cholesterol biosynthesis, and in drug metabolism. The erythrocyte form is located in a soluble fraction of circulating erythrocytes and is involved in methemoglobin reduction. The membrane-bound form has both membrane-binding and catalytic domains, while the soluble form has only the catalytic domain. Alternate splicing results in multiple transcript variants. Mutations in this gene cause methemoglobinemias. [provided by RefSeq, Jan 2010], catalytic activity: $\text{NADH} + 2 \text{ ferricytochrome b5} = \text{NAD}(+) + \text{H}(+) + 2 \text{ ferrocyanochrome b5}$, cofactor: FAD, disease: Defects in CYB5R3 are the cause of hereditary methemoglobinemia (HM) [MIM:250800]. 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; type 3 (HM3) where the deficiency is seen in all blood cells. Type 2 is a severe form accompanied with mental retardation and neurological impairment, function: Desaturation and elongation of fatty acids, cholesterol biosynthesis, drug metabolism, and, in erythrocyte, methemoglobin reduction, polymorphism: Ser-117 seems to only be found in persons of African origin. The allele frequency is 0.23 in African Americans. It was not found in Caucasians, Asians, Indo-Aryans, or Arabs. There seems to be no effect on the enzyme activity, similarity: Belongs to the flavoprotein pyridine nucleotide cytochrome reductase family, similarity: Contains 1 FAD-binding FR-type domain, subcellular location: Produces the soluble form found in erythrocytes, subunit: Component of a complex composed of cytochrome b5, NADH-cytochrome b5 reductase (CYB5R3) and MOSC2, tissue specificity: Isoform 2 (soluble form) is expressed at late stages of erythroid maturation.