



## QDPR (Q-9): sc-100590

### BACKGROUND

QDPR (quinoid dihydropteridine reductase), also known as DHPR (dihydropteridine reductase) or PKU2, is a member of the short-chain dehydrogenases/reductase (SDR) family of enzymes. Functioning as a homodimer, QDPR plays an important role in the recycling of tetrahydrobiopterin (BH4), an essential cofactor for the hydroxylation of the aromatic amino acids (tryptophan, tyrosine and phenylalanine). More specifically, QDPR catalyzes the regeneration of BH4 from quinonoid dihydrobiopterin (qBH2), the product generated from the hydroxylation reactions. Mutations in the gene encoding QDPR can lead to phenylketonuria II (also called PK2 or dihydropteridine reductase deficiency), a disorder resulting from the depletion of Dopamine, epinephrine and Serotonin due to defective recycling of BH4. Symptoms of PK2 include hyperphenylalaninemia, axial hypotonia, truncal hypertonia, microcephaly and abnormal thermogenesis.

### REFERENCES

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6. Kalkanoglu, H.S., et al. 2001. Evaluation of a fetus at risk for dihydropteridine reductase deficiency by direct mutation analysis using denaturing gradient gel electrophoresis. *Prenat. Diagn.* 21: 868-870.
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### CHROMOSOMAL LOCATION

Genetic locus: QDPR (human) mapping to 4p15.32.

### RESEARCH USE

For research use only, not for use in diagnostic procedures.

### SOURCE

QDPR (Q-9) is a mouse monoclonal antibody raised against recombinant QDPR of human origin.

### PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

### APPLICATIONS

QDPR (Q-9) is recommended for detection of QDPR of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for QDPR siRNA (h): sc-89106, QDPR shRNA Plasmid (h): sc-89106-SH and QDPR shRNA (h) Lentiviral Particles: sc-89106-V.

Molecular Weight of QDPR: 26 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

### STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.