

#### DESCRIPTION

<b>Species Reactivity</b>	Human/Mouse/Rat
<b>Specificity</b>	Detects human, mouse, and rat QDPR in Western blots.
<b>Source</b>	Polyclonal Sheep IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human QDPR Ala2-Phe244 Accession # P09417
<b>Conjugate</b>	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
<b>Formulation</b>	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide
*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.	

#### APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

**Western Blot** Optimal dilution of this antibody should be experimentally determined.

#### PREPARATION AND STORAGE

<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

#### BACKGROUND

QDPR (Quinoid DihydroPteridine Reductase; also DiHydroPteridine Reductase/DHPR) is a 25-26 kDa member of the Short-chain Dehydrogenase/Reductase (SDR) family of enzymes. Its alternative designation (DHPR) should not be confused with the 180-200 kDa dihydropyridine receptor, also known as DHPR, or 120 kDa bacterial dihydroadipicinate reductase, also known as DHPR. QDPR is widely expressed, and found in cells such as fibroblasts, neurons, hepatocytes and lymphocytes. QDPR serves as a generator of a cofactor that is used in both nitric oxide and neurotransmitter production. Tyrosine and tryptophan are precursors for serotonin and dopamine, respectively. These final neurotransmitter endproducts are generated through a two-step process, the first involving the action of Tyr and Trp-specific hydroxylases. These two hydroxylases have an absolute requirement for BH4 (tetrahydrobiopterin), which is generated through the action of QDPR on q-BH2 (quinonoid dihydrobiopterin). Human QDPR is 244 amino acids (aa) in length. It contains one enzymatic region (aa 9-230) plus a utilized acetylation site at Ala2. QDPR functions as a nondisulfide-linked homodimer. There are four potential isoform variants, one that contains a 3 aa insertion after Gly218, another that shows a deletion of aa 36-66, a third that contains a five aa substitution for aa 147-244, and a fourth that utilizes an alternative start site at Met56. Pathologic conditions are associated with single aa substitutions at multiple sites, including Gly17, Gly23, Gln66 and His158. Full-length human QDPR (aa 1-244) shares 93% aa sequence identity with mouse QDPR.

#### PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.