Human/Mouse/Rat QDPR Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF8038

DESCRIPTION

Species Reactivity	Human/Mouse/Rat
Specificity	Detects human, mouse, and rat QDPR in Western blots.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant human QDPR Ala2-Phe244 Accession # P09417
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

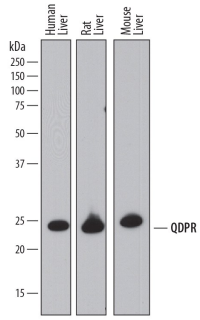
APPLICATIONS

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.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below

DATA

Western Blot



Detection of Human, Mouse, and Rat QDPR by Western Blot. Western blot shows lysates of human liver tissue, rat liver tissue, and mouse liver tissue. PVDF membrane was probed with 1 µg/mL of Sheep Anti-Human/Mouse QDPR Antigen Affinity-purified Polyclonal Antibody (Catalog # AF8038) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for QDPR at approximately 25 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.2 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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 dihydrodipicolinate 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.

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