

PBR (E-3): sc-518127

BACKGROUND

Mitochondrial peripheral-type benzodiazepine receptor (PBR) is an indispensable element of the steroidogenic machinery, where it mediates the delivery of cholesterol to the inner mitochondrial side chain cleavage cytochrome P-450 upon ligand activation. PBR is composed of three subunits, an isoquinoline binding site, a voltage-dependent anion channel and an adenine nucleotide carrier. PBR is genetically conserved from bacteria to humans and in humans is widely expressed in peripheral organs, whereas in the brain, it is sparse and located mainly in glial cells. Peroxisome proliferator perfluorodecanoic acid (PFDA) inhibits the Leydig cell steroidogenesis by affecting PBR mRNA stability, thus inhibiting PBR expression, cholesterol transport into the mitochondria and subsequent steroid formation. A cytoplasmic protein, PRAX-1 (peripheral benzodiazepine receptor-associated protein 1), is found to specifically interact with PBR. The polypeptide diazepam binding inhibitor is an endogenous PBR ligand. PBR also binds Ro 5-4864 (4'-chlorodiazepam) and PK 11185 (an isoquinoline carboxamide derivative), but not clonazepam, and PBR regulates the cholesterol transport that results in decreased circulating corticosterone levels.

REFERENCES

- Weizman, R. and Gavish, M. 1993. Molecular cellular and behavioral aspects of peripheral-type benzodiazepine receptors. *Clin. Neuropharmacol.* 16: 401-417.
- Gavish, M. 1995. Hormonal regulation of peripheral-type benzodiazepine receptors. *J. Steroid Biochem. Mol. Biol.* 53: 57-59.
- Papadopoulos, V., et al. 1997. Targeted disruption of the peripheral-type benzodiazepine receptor gene inhibits steroidogenesis in the R2C Leydig tumor cell line. *J. Biol. Chem.* 272: 32129-32135.

CHROMOSOMAL LOCATION

Genetic locus: TSP0 (human) mapping to 22q13.2.

SOURCE

PBR (E-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 62-81 within an internal region of PBR of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PBR (E-3) is available conjugated to agarose (sc-518127 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518127 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518127 PE), fluorescein (sc-518127 FITC), Alexa Fluor® 488 (sc-518127 AF488), Alexa Fluor® 546 (sc-518127 AF546), Alexa Fluor® 594 (sc-518127 AF594) or Alexa Fluor® 647 (sc-518127 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518127 AF680) or Alexa Fluor® 790 (sc-518127 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

PBR (E-3) is recommended for detection of PBR of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PBR siRNA (h): sc-40821, PBR shRNA Plasmid (h): sc-40821-SH and PBR shRNA (h) Lentiviral Particles: sc-40821-V.

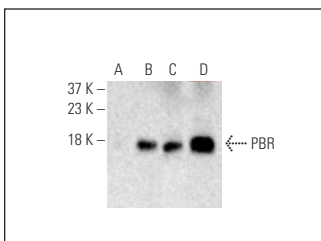
Molecular Weight of PBR: 18/32/30 kDa.

Positive Controls: HT-29 whole cell lysate: sc-364232, PBR (h4): 293T Lysate: sc-369196 or HeLa whole cell lysate: sc-2200.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



PBR (E-3): sc-518127. Western blot analysis of PBR expression in non-transfected 293T: sc-117752 (A), human PBR transfected 293T: sc-369196 (B), HeLa (C) and HT-29 (D) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM.

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 for detailed protocols and support products.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA