SANTA CRUZ BIOTECHNOLOGY, INC.

PBR (FL-169): sc-20120

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 perfluordecanoic 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.

CHROMOSOMAL LOCATION

Genetic locus: TSPO (human) mapping to 22q13.2; Tspo (mouse) mapping to 15 E1.

SOURCE

PBR (FL-169) is a rabbit polyclonal antibody raised against amino acids 1-169 representing full length PBR of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PBR (FL-169) is recommended for detection of PBR of mouse, rat and 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 siRNA (m): sc-40822, PBR shRNA Plasmid (h): sc-40821-SH, PBR shRNA Plasmid (m): sc-40822-SH, PBR shRNA (h) Lentiviral Particles: sc-40821-V and PBR shRNA (m) Lentiviral Particles: sc-40822-V.

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

Positive Controls: Hep G2 cell lysate: sc-2227 or human breast extract: sc-363753.

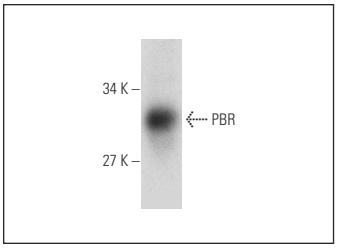
STORAGE

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

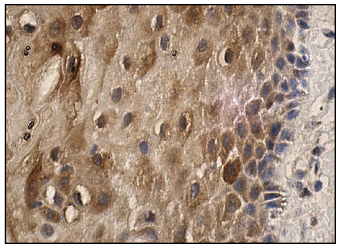
RESEARCH USE

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

DATA



PBR (FL-169): sc-20120. Western blot analysis of PBR expression in human breast tissue extract.



PBR (FL-169): sc-20120. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cervix tissue showing cytoplasmic staining of squamous epithelial cells.

SELECT PRODUCT CITATIONS

1. Wilms, H., et al. 2003. Involvement of benzodiazepine receptors in neuroinflammatory and neurodegenerative diseases: evidence from activated microglial cells *in vitro*. Neurobiol. Dis. 14: 417-424.
2. Costa, B., et al. 2006. Peripheral benzodiazepine receptor: characterization in human T-lymphoma Jurkat cells. Mol. Pharmacol. 69: 37-44.
3. Ji, B., et al. 2008. Imaging of peripheral benzodiazepine receptor expression as biomarkers of detrimental versus beneficial glial responses in mouse models of Alzheimer's and other CNS pathologies. J. Neurosci. 28: 12255-12267.
4. Visigalli, I., et al. 2009. Monitoring disease evolution and treatment response in lysosomal disorders by the peripheral benzodiazepine receptor ligand PK11195. Neurobiol. Dis. 34: 51-62.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.