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TSPO Antibody

Store at -20C

#9530

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: W	Reactivity: H M Mk	Sensitivity: Endogenous	MW (kDa): 18	Source/Isotype: Rabbit	UniProt ID: #P30536	Entrez-Gene Id: 706
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Product Usage Information

Application

Western Blotting

Dilution

1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

TSPO Antibody recognizes endogenous levels of total TSPO protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of mouse TSPO protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Translocator protein (TSPO) is an 18 kDa mitochondrial drug- and cholesterol-transporting protein involved in steroid hormone synthesis and mitochondrial homeostasis in various cell types (1,2). Originally thought to play a role exclusively in steroid synthesis in steroidogenic cells, subsequent research studies have implicated TSPO in a variety of pathologies in a broad range of tissues, including progression of breast cancer, neuroinflammation, and neurological disorders (1,3-5). TSPO was first identified by its ability to bind benzodiazepines in peripheral tissues and glial cells, hence its alternate name, Peripheral Benzodiazepine Receptor (PBR).

TSPO has been shown to modulate an array of cellular functions; it is critical for steroidogenesis, modulates mitochondrial function and metabolism, and plays a role in both cell proliferation and apoptosis (2,6,7). TSPO is found in the outer mitochondrial membrane where it coordinates with Steroidogenic Acute Regulatory Factor (StAR) to transport cholesterol into the mitochondria and is critical for steroidogenesis and tumor progression (8,9). This is illustrated by studies that show the non-aggressive, hormone-dependent cell line, MCF7, expresses low levels of TSPO whereas the more aggressive, metastatic, and hormone-independent cell line, MDA-MB-231, expresses high levels of TSPO (9). This study, and others, suggest that TSPO may be an important regulator of hormone-dependent tumor progression. Numerous investigations have concluded that due to its high affinity for pharmacological compounds and upregulation in disease, TSPO is an attractive target for diagnosis and treatment of tumor progression, neuroinflammation, neurodegeneration, and neurological/psychiatric disorders (10-14).

Background References

- Batarseh, A. and Papadopoulos, V. (2010) *Mol Cell Endocrinol* 327, 1-12.
- Gatliff, J. and Campanella, M. (2012) *Curr Mol Med* 12, 356-68.
- Sileikyte, J. et al. (2011) *J Biol Chem* 286, 1046-53.
- Mukherjee, S. and Das, S.K. (2012) *Curr Mol Med* 12, 443-57.
- Da Pozzo, E. et al. (2012) *Curr Mol Med* 12, 426-42.
- Riond, J. et al. (1991) *Eur J Biochem* 195, 305-11.
- Veenman, L. and Gavish, M. (2012) *Curr Mol Med* 12, 398-412.
- Papadopoulos, V. et al. (1997) *Steroids* 62, 21-8.
- Batarseh, A. et al. (2012) *Biochim Biophys Acta* 1819, 38-56.
- Scarf, A.M. and Kassiou, M. (2011) *J Nucl Med* 52, 677-80.
- Rupprecht, R. et al. (2010) *Nat Rev Drug Discov* 9, 971-88.
- Venneti, S. et al. (2013) *Glia* 61, 10-23.
- Politis, M. et al. (2012) *Front Pharmacol* 3, 96.
- Calabresi, P.A. and Bohnen, N.I. (2012) *Neurology* 79, 496-7.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse **Mk:** Monkey

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