

# Product Datasheet

## PBR Antibody NB100-41398

Unit Size: 0.1 mg

Store at -20C. Avoid freeze-thaw cycles.

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**NB100-41398**

PBR Antibody

**Product Information**

<b>Unit Size</b>	0.1 mg
<b>Concentration</b>	0.5 mg/ml
<b>Storage</b>	Store at -20C. Avoid freeze-thaw cycles.
<b>Clonality</b>	Polyclonal
<b>Preservative</b>	0.02% Sodium Azide
<b>Isotype</b>	IgG
<b>Purity</b>	Immunogen affinity purified
<b>Buffer</b>	Tris saline (20 mM Tris pH 7.3, 150 mM NaCl), 0.5% BSA
<b>Target Molecular Weight</b>	18.8 kDa

**Product Description**

<b>Host</b>	Goat
<b>Gene ID</b>	706
<b>Gene Symbol</b>	TSPO
<b>Species</b>	Human, Mouse, Rat
<b>Reactivity Notes</b>	Use in Mouse reported in scientific literature (PMID:33725191).
<b>Specificity/Sensitivity</b>	This antibody is expected to recognise one isoform (NP_000705.2) only.
<b>Immunogen</b>	Peptide with sequence C-RDNHGWRGGRRLPE corresponding to C-Terminus according to NP_000705.2.

**Product Application Details**

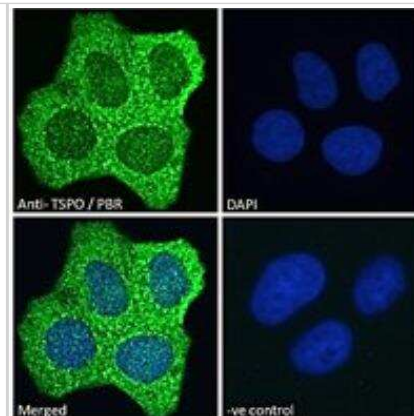
<b>Applications</b>	Western Blot, Flow Cytometry, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Paraffin, Peptide ELISA
<b>Recommended Dilutions</b>	Western Blot 0.1-0.3 ug/ml, Flow Cytometry 10 ug/mL, Immunohistochemistry 2-4 ug/ml, Immunocytochemistry/ Immunofluorescence 10 ug/mL, Immunohistochemistry-Paraffin 2-4 ug/ml, Peptide ELISA detection limit 1:128000

**Images**

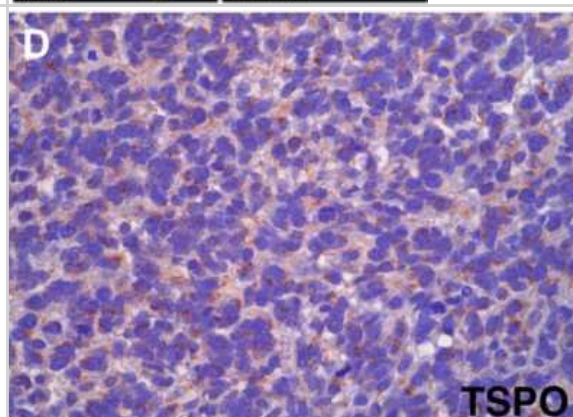
Western Blot: PBR Antibody [NB100-41398] - Staining of A431 cell lysate.(35 ug protein in RIPA buffer). Antibody at 0.3 ug/mL. Detected by chemiluminescence.



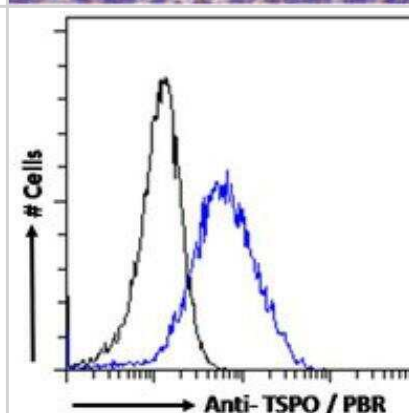
**Immunocytochemistry/Immunofluorescence:** PBR Antibody [NB100-41398] - Immunofluorescence analysis of paraformaldehyde fixed MCF7 cells, permeabilized with 0.15% Triton. Primary incubation 1hr (10 ug/mL) followed by Alexa Fluor 488 secondary antibody (2 ug/mL), showing cytoplasmic staining. The nuclear stain is DAPI (blue). Negative control: Unimmunized goat IgG (10 ug/mL) followed by Alexa Fluor 488 secondary antibody (2 ug/mL).



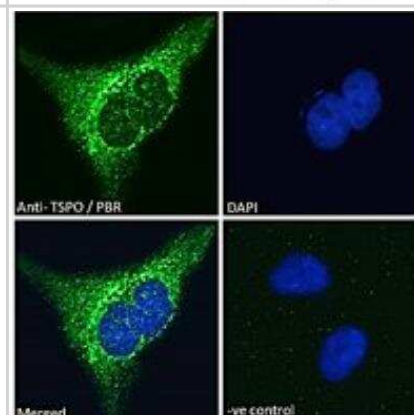
**Immunohistochemistry:** PBR Antibody [NB100-41398] - Correlative TSPO immunohistochemistry in a primary human grade III astrocytoma xenotransplant, Tumor + White Matter Tract (40X). Image collected and cropped by CiteAb from the following publication ([www.journals.plos.org/plosone/article?id=10.1371/journal.pone.0141659](http://www.journals.plos.org/plosone/article?id=10.1371/journal.pone.0141659)) licensed under a CC-BY license.



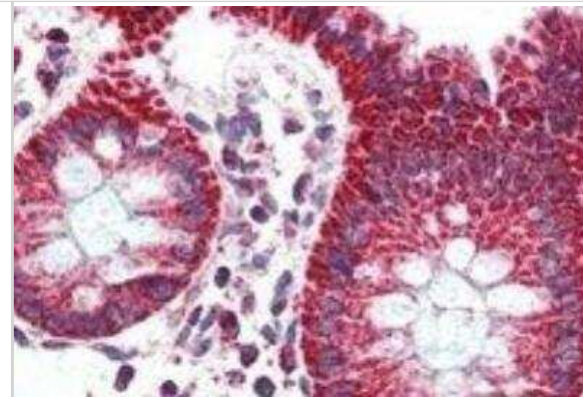
**Flow Cytometry:** PBR Antibody [NB100-41398] - Flow cytometric analysis of paraformaldehyde fixed MCF7 cells (blue line), permeabilized with 0.5% Triton. Primary incubation 1hr (10 ug/mL) followed by Alexa Fluor 488 secondary antibody (1 ug/mL). IgG control: Unimmunized goat IgG (black line) followed by Alexa Fluor 488 secondary antibody.



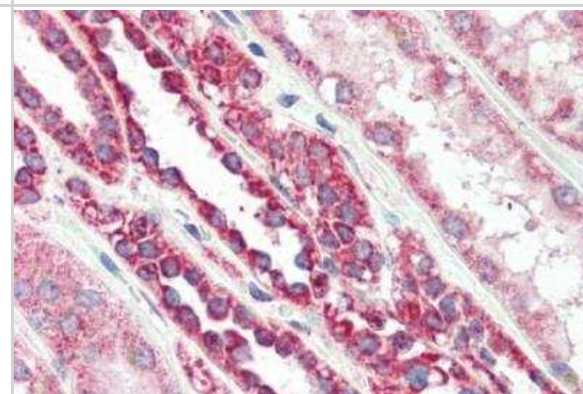
**Immunocytochemistry/Immunofluorescence:** PBR Antibody [NB100-41398] - Immunofluorescence analysis of paraformaldehyde fixed HeLa cells, permeabilized with 0.15% Triton. Primary incubation 1hr (10 ug/mL) followed by Alexa Fluor 488 secondary antibody (2 ug/mL), showing cytoplasmic staining. The nuclear stain is DAPI (blue). Negative cControl: Unimmunized goat IgG (10 ug/mL) followed by Alexa Fluor 488 secondary antibody.



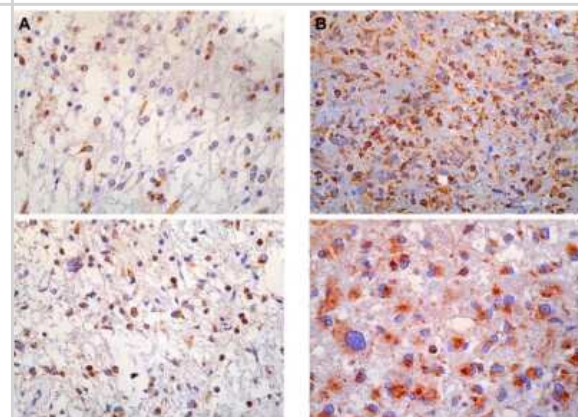
Immunohistochemistry-Paraffin: PBR Antibody [NB100-41398] - Staining of paraffin embedded Human Colon. Antibody at 2.5 ug/mL. Steamed antigen retrieval with citrate buffer pH 6, AP-staining.



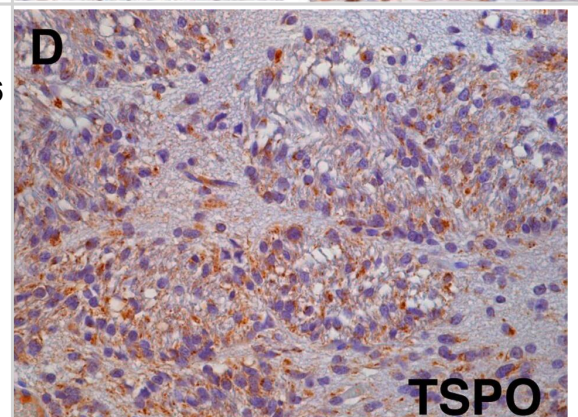
Immunohistochemistry-Paraffin: PBR Antibody [NB100-41398] - Staining of paraffin embedded Human Kidney. Antibody at 5 ug/mL. Steamed antigen retrieval with citrate buffer pH 6, AP-staining.



Immunohistochemistry: PBR Antibody [NB100-41398] - Human tumor microarrays (TMAs). Pilocytic astrocytoma TSPO immunohistochemistry (A) and Glioblastoma multiforme TSPO immunohistochemistry (B). Image collected and cropped by CiteAb from the following publication ([www.journals.plos.org/plosone/article?id=10.1371/journal.pone.0141659](http://www.journals.plos.org/plosone/article?id=10.1371/journal.pone.0141659)) licensed under a CC-BY license.

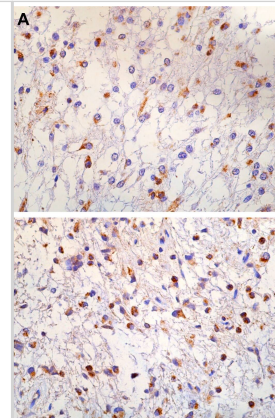


Immunohistochemistry: PBR Antibody [NB100-41398] - [18F]PBR06 selectivity in primary human grade IV glioblastoma xenotransplant. (A) Dynamic PET image (axial) pre-infusion of cold analog, with [18F]PBR06 uptake primarily confined to the tumor. (B) Dynamic PET image (axial) post-infusion, showing nearly total displacement of [18F]PBR06. (C) Time-activity curves of injected [18F]PBR06 in tumor (green) & contralateral brain (blue). (D) Correlative TSPO immunohistochemistry, Tumor + White Matter Tract (40X). Image collected & cropped by CiteAb from the following publication (<https://dx.plos.org/10.1371/journal.pone.0141659>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.

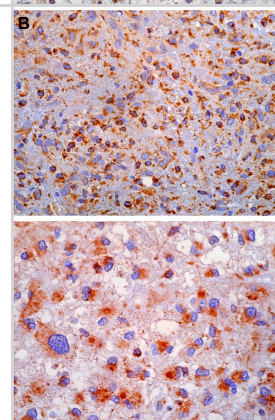




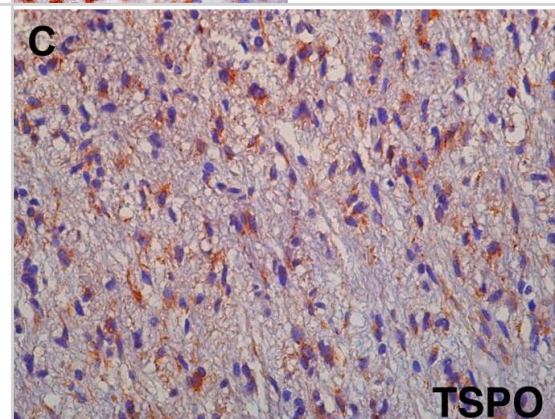
Immunohistochemistry-Paraffin: PBR Antibody [NB100-41398] - Human tumor microarrays (TMAs).Pilocytic astrocytoma TSPO immunohistochemistry (A) & TSPO immunohistochemical scoring (C). Glioblastoma multiforme TSPO immunohistochemistry (B) & TSPO immunohistochemical scoring (D). Image collected & cropped by CiteAb from the following publication (<https://dx.plos.org/10.1371/journal.pone.0141659>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



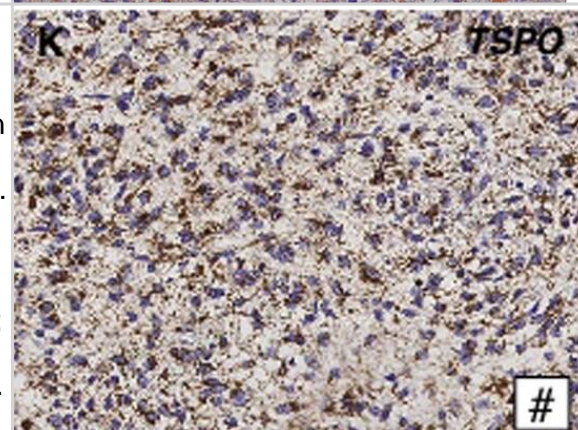
Immunohistochemistry-Paraffin: PBR Antibody [NB100-41398] - Human tumor microarrays (TMAs).Pilocytic astrocytoma TSPO immunohistochemistry (A) & TSPO immunohistochemical scoring (C). Glioblastoma multiforme TSPO immunohistochemistry (B) & TSPO immunohistochemical scoring (D). Image collected & cropped by CiteAb from the following publication (<https://dx.plos.org/10.1371/journal.pone.0141659>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



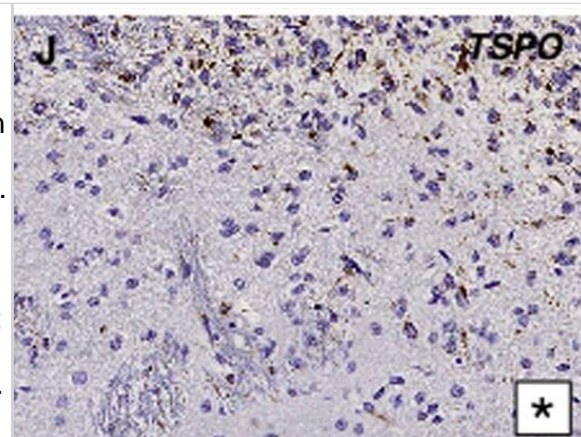
Immunohistochemistry-Paraffin: PBR Antibody [NB100-41398] - Primary human grade IV glioblastoma xenotransplant.(A) Dynamic PET image (coronal) of advanced tumor in the right hemisphere of the brain with [18F]PBR06 uptake confined primarily to the tumor. Arrows indicate tumor & infiltration into left hemisphere. (B) Time-activity curves of injected [18F]PBR06 in tumor (green) & contralateral brain (blue) [30]. (C) Correlative TSPO immunohistochemistry, Tumor + White Matter Tract (40X). Image collected & cropped by CiteAb from the following publication (<https://dx.plos.org/10.1371/journal.pone.0141659>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



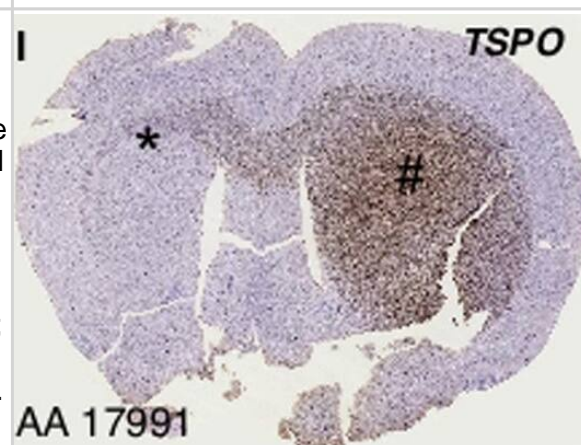
Immunohistochemistry-Paraffin: PBR Antibody [NB100-41398] - Primary human grade III astrocytoma xenotransplant.(A) T2-weighted MRI (coronal) visualizes advanced tumor in the right hemisphere of the brain. (B) Correlative dynamic PET image (coronal) of same advanced tumor in the right hemisphere of the brain, with [18F]PBR06 uptake primarily confined to the tumor & co-localizing with tumor tissue visualized by MRI. Top arrows indicate tumor & infiltration into left hemisphere. (C) Fused MRI (A) PET (B) image. (D) Time-activity curves of injected [18F]PBR06 in tumor (green) & contralateral brain (blue). Correlative vimentin immunohistochemistry: (E) Gross; (F) Tumor + White Matter Tract (40X); (G) Tumor (40X). (H) Correlative dynamic PET image, axial view along yellow line in (B); arrows indicate tumor & infiltration into left hemisphere. Correlative TSPO immunohistochemistry: (I) Gross; (J) Tumor + White Matter Tract (40X); (K) Tumor (40X). (L) Dynamic PET image (axial) of control cohort. Correlative CD68 immunohistochemistry: (M) Gross; (N) Tumor + White Matter Tract (40X); (O) Tumor (40X). Image collected & cropped by CiteAb from the following publication (<https://dx.plos.org/10.1371/journal.pone.0141659>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Immunohistochemistry-Paraffin: PBR Antibody [NB100-41398] - Primary human grade III astrocytoma xenotransplant. (A) T2-weighted MRI (coronal) visualizes advanced tumor in the right hemisphere of the brain. (B) Correlative dynamic PET image (coronal) of same advanced tumor in the right hemisphere of the brain, with [ $^{18}\text{F}$ ]PBR06 uptake primarily confined to the tumor & co-localizing with tumor tissue visualized by MRI. Top arrows indicate tumor & infiltration into left hemisphere. (C) Fused MRI (A) PET (B) image. (D) Time-activity curves of injected [ $^{18}\text{F}$ ]PBR06 in tumor (green) & contralateral brain (blue). Correlative vimentin immunohistochemistry: (E) Gross; (F) Tumor + White Matter Tract (40X); (G) Tumor (40X). (H) Correlative dynamic PET image, axial view along yellow line in (B); arrows indicate tumor & infiltration into left hemisphere. Correlative TSPO immunohistochemistry: (I) Gross; (J) Tumor + White Matter Tract (40X); (K) Tumor (40X). (L) Dynamic PET image (axial) of control cohort. Correlative CD68 immunohistochemistry: (M) Gross; (N) Tumor + White Matter Tract (40X); (O) Tumor (40X). Image collected & cropped by CiteAb from the following publication (<https://dx.plos.org/10.1371/journal.pone.0141659>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Immunohistochemistry: PBR Antibody [NB100-41398] - Primary human grade III astrocytoma xenotransplant. (A) T2-weighted MRI (coronal) visualizes advanced tumor in the right hemisphere of the brain. (B) Correlative dynamic PET image (coronal) of same advanced tumor in the right hemisphere of the brain, with [ $^{18}\text{F}$ ]PBR06 uptake primarily confined to the tumor & co-localizing with tumor tissue visualized by MRI. Top arrows indicate tumor & infiltration into left hemisphere. (C) Fused MRI (A) PET (B) image. (D) Time-activity curves of injected [ $^{18}\text{F}$ ]PBR06 in tumor (green) & contralateral brain (blue). Correlative vimentin immunohistochemistry: (E) Gross; (F) Tumor + White Matter Tract (40X); (G) Tumor (40X). (H) Correlative dynamic PET image, axial view along yellow line in (B); arrows indicate tumor & infiltration into left hemisphere. Correlative TSPO immunohistochemistry: (I) Gross; (J) Tumor + White Matter Tract (40X); (K) Tumor (40X). (L) Dynamic PET image (axial) of control cohort. Correlative CD68 immunohistochemistry: (M) Gross; (N) Tumor + White Matter Tract (40X); (O) Tumor (40X). Image collected & cropped by CiteAb from the following publication (<https://dx.plos.org/10.1371/journal.pone.0141659>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.





## Publications

- Cohen AS, Li J, Hight MR et al. TSPO-targeted PET and Optical Probes for the Detection and Localization of Premalignant and Malignant Pancreatic Lesions Clinical Cancer Research 2020-11-15 [PMID: 32933996] (Immunohistochemistry)
- Nutma E, Fancy N, Marzin M et al. Translocator protein is a marker of activated microglia in rodent models but not human neurodegenerative diseases Research Square 2022-03-23
- Nutma E, Gebro E, Marzin MC et al. Activated microglia do not increase 18 kDa translocator protein (TSPO) expression in the multiple sclerosis brain Glia 2021-06-19 [PMID: 34145928]
- Chang CW, Chiu CH, Lin MH et al. GMP-compliant fully automated radiosynthesis of [18F]FEPPA for PET/MRI imaging of regional brain TSPO expression EJNMMI research 2021-03-16 [PMID: 33725191] (WB, ICC/IF, Mouse)
- Robb J Characterisation of immunometabolic responses in astrocytes Thesis 2020-01-01 (IP)
- Hieu Tran V, Park H, Park J et al. Synthesis and evaluation of novel potent TSPO PET ligands with 2-phenylpyrazolo [1,5-a]pyrimidin-3-yl acetamide Bioorg. Med. Chem. 2019-07-19 [PMID: 31353076] (IF/IHC, Rat, Human)
- Buck JR, McKinley ET, Fu A et al. Preclinical TSPO Ligand PET to Visualize Human Glioma Xenotransplants: A Preliminary Study. PLoS ONE. 2015-10-31 [PMID: 26517124] (IHC-P, Human)
- Papadopoulos V, Baraldi M, Guilarte TR et al. Translocator protein (18kDa): new nomenclature for the peripheral-type benzodiazepine receptor based on its structure and molecular function. Trends Pharmacol Sci 2006-08-01 [PMID: 16822554]
- Zhou T, Frabutt DA, Moremen KW, Zheng YH et al. ERMAnI is required for HIV-1 envelope glycoprotein degradation via endoplasmic reticulum-associated protein degradation pathway J. Biol. Chem. 2015-07-23 [PMID: 26205822] (WB, Human)
- Zhou T, Dang Y, Zheng YH. The Mitochondrial Translocator Protein, TSPO, Inhibits HIV-1 Envelope Glycoprotein Biosynthesis via the Endoplasmic Reticulum-Associated Protein Degradation Pathway. J. Virol. 2014-03-01 [PMID: 24403586] (WB, Human)
- Wu X, Gallo KA. The 18-kDa Translocator Protein (TSPO) Disrupts Mammary Epithelial Morphogenesis and Promotes Breast Cancer Cell Migration. PLoS One. 2013-08-14 [PMID: 23967175] (WB, ICC/IF, Human)
- Joo, HK et al. Peripheral benzodiazepine receptor regulates vascular endothelial activations via suppression of the voltage-dependent anion channel-1 FEBS Lett 2012-01-01 [PMID: 22616995] (WB, Human)
- More publications at <http://www.novusbio.com/NB100-41398>





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### **Products Related to NB100-41398**

NBL1-17384	PBR Overexpression Lysate
HAF017	Rabbit anti-Goat IgG Secondary Antibody [HRP (Horseradish Peroxidase)]
HAF109	Donkey anti-Goat IgG Secondary Antibody [HRP (Horseradish Peroxidase)]
NB410-28088-1mg	Goat IgG Isotype Control

### **Limitations**

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

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