# **Product Datasheet**

## TDO2 Antibody - Azide and BSA Free H00006999-B01P

Unit Size: 0.05 mg

Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles.

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#### H00006999-B01P

TDO2 Antibody - Azide and BSA Free

Product Information	
Unit Size	0.05 mg
Concentration	Concentrations vary lot to lot. See vial label for concentration. If unlisted please contact technical services.
Storage	Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles.
Clonality	Polyclonal
Preservative	No Preservative
Isotype	IgG
Purity	IgG purified
Buffer	PBS (pH 7.4)
Product Description	
Description	Quality control test: Antibody reactive against mammalian transfected lysate.
Host	Mouse
Gene ID	6999
Gene Symbol	TDO2
Species	Human, Mouse
Reactivity Notes	Mouse reactivity reported in scientific literature (PMID: 27190010). Please note that this antibody is reactive to Mouse and derived from the same host, Mouse. Additional Mouse on Mouse blocking steps may be required for IHC and ICC experiments. Please contact Technical Support for more information.
Specificity/Sensitivity	TDO2 - tryptophan 2,3-dioxygenase,
Immunogen	TDO2 (NP_005642.1, 1 a.a 406 a.a.) full-length human protein. MSGCPFLGNNFGYTFKKLPVEGSEEDKSQTGVNRASKGGLIYGNYLHLEKVLN AQELQSETKGNKIHDEHLFIITHQAYELWFKQILWELDSVREIFQNGHVRDERN MLKVVSRMHRVSVILKLLVQQFSILETMTALDFNDFREYLSPASGFQSLQFRLL ENKIGVLQNMRVPYNRRHYRDNFKGEENELLLKSEQEKTLLELVEAWLERTPG LEPHGFNFWGKLEKNITRGLEEEFIRIQAKEESEEKEEQVAEFQKQKEVLLSLF DEKRHEHLLSKGERRLSYRALQGALMIYFYREEPRFQVPFQLLTSLMDIDSLMT KWRYNHVCMVHRMLGSKAGTGGSSGYHYLRSTVSDRYKVFVDLFNLSTYLIP RHWIPKMNPTIHKFLYTAEYCDSSYFSSDESD
Notes	This product is produced by and distributed for Abnova, a company based in Taiwan.
Product Application Details	
Applications	Western Blot, Immunohistochemistry, Immunohistochemistry-Paraffin
Recommended Dilutions	Western Blot 1:500, Immunohistochemistry, Immunohistochemistry-Paraffin
Application Notes	Antibody reactivity against Recombinant Protein with GST tag on ELISA and WB and also on transfected lysate in WB. GST tag alone is used as a negative control.

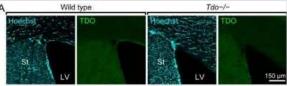


#### Images

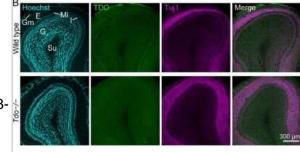
Western Blot: TDO2 Antibody [H00006999-B01P] - Specificity of MINNO without primary antibodies for tryptophan 2,3-dioxygenase (TDO) by Western blot. The Tdort А total protein (20 ug) of the dentate gyrus, extracted from the wild-type (lanes 1 and 3) and Tdo-/- mice (lane 2), was subjected to 4% to 12% kDa gradient sodium dodecyl sulfate polyacrylamide gel electrophoresis, and 250 150 transferred to polyvinylidene difluoride membranes. TDO was detected 100 75 as described in the Methods section. Note that a 45-kDa band was detected with the anti-TDO antibody. The positions of molecular weight 50 <TDO 37 markers are shown on the left. Lane 3: negative control without the 25 20 primary antibody. beta-Tubulin is a positive control for the Western blot. Image collected and cropped by CiteAb from the following publication (https://molecularbrain.biomedcentral.com/articles/10.1186/1756-6606-3β-Tubulin 26), licensed under a CC-BY license. Western Blot: TDO2 Antibody [H00006999-B01P] - Analysis of TDO2 2 expression in transfected 293T cell line by TDO2 polyclonal antibody. Lane 1: TDO2 transfected lysate(44.66 KDa). Lane 2: Non-transfected lvsate. 50 37. 25-20-15-Wild type Tdo-/-Immunohistochemistry: TDO2 Antibody [H00006999-B01P] -Immunoreactivity of TDO in the SVZ, the olfactory bulb, and the cerebellum. In the cerebellum, the immunoreactivity for TDO was observed in granule cells and Purkinie cells of wild type mice, but these positive structures disappeared in Tdo-/- mice. The cytoarchitectural organization of Tdo-/- mice was the same as that of wild type mice. Image collected and cropped by CiteAb from the following publication (https://molecularbrain.biomedcentral.com/articles/10.1186/1756-6606-3-26), licensed under a CC-BY license. Western Blot: TDO2 Antibody [H00006999-B01P] - Analysis of TDO2 258= expression in human liver. 100-75 -50 -37-25-20-15-10-



Immunohistochemistry: TDO2 Antibody [H00006999-B01P] -Immunoreactivity of TDO in the SVZ, the olfactory bulb, and the cerebellum. A TDO was not stained in the SVZ. The immunoreactivities for TDO in wild type and Tdo-/- mice were background level. Image collected and cropped by CiteAb from the following publication (https://molecularbrain.biomedcentral.com/articles/10.1186/1756-6606-3-26), licensed under a CC-BY license.



Immunohistochemistry: TDO2 Antibody [H00006999-B01P] -Immunoreactivity of TDO in the SVZ, the olfactory bulb, and the cerebellum. TDO was not stained in the olfactory bulb (OB). The immunoreactivities for TDO in wild type and Tdo-/- mice were background level. Image collected and cropped by CiteAb from the following publication

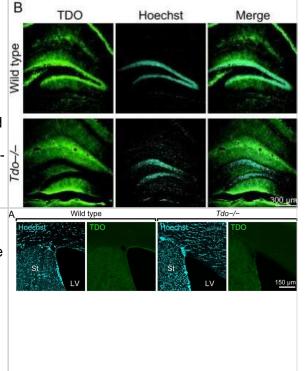


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Immunohistochemistry: TDO2 Antibody [H00006999-B01P] - Specificity of antibodies for tryptophan 2,3-dioxygenase (TDO) by immunofluorescent staining. The hippocampal sections of wild-type and Tdo-/- mice were stained with anti-TDO antibody. In sections of Tdo -/mice, immunofluorescence signals were not detected in granule cells, interneurons (arrowhead), CA1, or CA3 cells, suggesting that the secondary antibody used in this study bound specifically to the primary antibody (mouse IgG). g, granule cell layer; h, hilus. Image collected and cropped by CiteAb from the following publication

(https://molecularbrain.biomedcentral.com/articles/10.1186/1756-6606-3-26), licensed under a CC-BY license.

Immunocytochemistry/ Immunofluorescence: TDO2 Antibody [H00006999-B01P] - Immunoreactivity of TDO in the SVZ, the olfactory bulb, & the cerebellum. A & B: TDO was not stained in the SVZ (A) & the olfactory bulb (OB) (B). The immunoreactivities for TDO in wild type & Tdo-/- mice were background level. C: In the cerebellum, the immunoreactivity for TDO was observed in granule cells & Purkinje cells of wild type mice, but these positive structures disappeared in Tdo-/mice. The cytoarchitectural organization of Tdo-/- mice was the same as that of wild type mice. E, external plexiform layer; G, granule cell layer; Gm, glomerular layer; I, internal plexiform layer; LV, lateral ventricle; Mi, mitral cell layer; Mo, molecular layer; P, Purkinje cell layer; St, striatum; Su, subependymal zone. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/20815922), licensed under a CC-BY license. Not internally tested by Novus Biologicals.

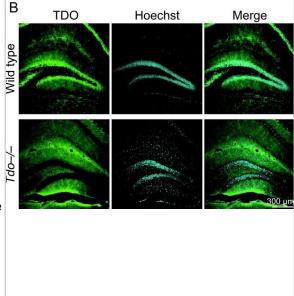




Wild type Tdo-/ Immunocytochemistry/ Immunofluorescence: TDO2 Antibody [H00006999-B01P] - Immunoreactivity of TDO in the SVZ, the olfactory bulb, & the cerebellum. A & B: TDO was not stained in the SVZ (A) & the olfactory bulb (OB) (B). The immunoreactivities for TDO in wild type & Tdo-/- mice were background level. C: In the cerebellum, the immunoreactivity for TDO was observed in granule cells & Purkinje cells of wild type mice, but these positive structures disappeared in Tdo-/mice. The cytoarchitectural organization of Tdo-/- mice was the same as that of wild type mice. E, external plexiform layer; G, granule cell layer; Gm, glomerular layer; I, internal plexiform layer; LV, lateral ventricle; Mi, mitral cell layer; Mo, molecular layer; P, Purkinje cell layer; St, striatum; Su, subependymal zone. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/20815922), licensed under a CC-BY license. Not internally tested by Novus Biologicals. Immunocytochemistry/ Immunofluorescence: TDO2 Antibody [H00006999-B01P] - Immunoreactivity of TDO in the SVZ, the olfactory bulb, & the cerebellum. A & B: TDO was not stained in the SVZ (A) & the olfactory bulb (OB) (B). The immunoreactivities for TDO in wild type & Tdo-/- mice were background level. C: In the cerebellum, the immunoreactivity for TDO was observed in granule cells & Purkinje cells of wild type mice, but these positive structures disappeared in Tdo-/mice. The cytoarchitectural organization of Tdo-/- mice was the same as that of wild type mice. E, external plexiform layer; G, granule cell layer; Gm, glomerular layer; I, internal plexiform layer; LV, lateral ventricle; Mi, mitral cell layer; Mo, molecular layer; P, Purkinje cell layer; St, striatum; Su, subependymal zone. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/20815922), licensed under a CC-BY license. Not internally tested by Novus Biologicals. Wild type / without all all Western Blot: TDO2 Antibody [H00006999-B01P] - Specificity of Α antibodies for tryptophan 2,3-dioxygenase (TDO) by Western blot (A) & immunofluorescent staining (B). A: The total protein (20 µg) of the dentate gyrus, extracted from the wild-type (lanes 1 & 3) & Tdo-/- mice (lane 2), was subjected to 4% to 12% gradient sodium dodecyl sulfate kDa polyacrylamide gel electrophoresis, & transferred to polyvinylidene 250 . difluoride membranes. TDO was detected as described in the Methods 150 section. Note that a 45-kDa band was detected with the anti-TDO 100 antibody. The positions of molecular weight markers are shown on the 75 left. Lane 3: negative control without the primary antibody.  $\beta$ -Tubulin is a positive control for the Western blot. B: The hippocampal sections of 50 -<TDO wild-type & Tdo-/- mice were stained with anti-TDO antibody. In sections 37 of Tdo-/- mice, immunofluorescence signals were not detected in granule 25 cells, interneurons (arrowhead), CA1, or CA3 cells, suggesting that the 20 secondary antibody used in this study bound specifically to the primary antibody (mouse IgG). g, granule cell layer; h, hilus. Image collected & cropped by CiteAb from the following publication β-Tubulin (https://pubmed.ncbi.nlm.nih.gov/20815922), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Immunohistochemistry: TDO2 Antibody [H00006999-B01P] - Specificity of antibodies for tryptophan 2,3-dioxygenase (TDO) by Western blot (A) & immunofluorescent staining (B). A: The total protein (20 µg) of the dentate gyrus, extracted from the wild-type (lanes 1 & 3) & Tdo-/- mice (lane 2), was subjected to 4% to 12% gradient sodium dodecyl sulfate polyacrylamide gel electrophoresis, & transferred to polyvinylidene difluoride membranes. TDO was detected as described in the Methods section. Note that a 45-kDa band was detected with the anti-TDO antibody. The positions of molecular weight markers are shown on the left. Lane 3: negative control without the primary antibody.  $\beta$ -Tubulin is a positive control for the Western blot. B: The hippocampal sections of wild-type & Tdo-/- mice were stained with anti-TDO antibody. In sections of Tdo-/- mice, immunofluorescence signals were not detected in granule cells, interneurons (arrowhead), CA1, or CA3 cells, suggesting that the secondary antibody used in this study bound specifically to the primary antibody (mouse IgG). g, granule cell layer; h, hilus. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/20815922), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



#### **Publications**

Quoc P, Daiki T, Shintaro A et al. TDO2 overexpression correlates with poor prognosis, cancer stemness, and resistance to cetuximab in bladder cancer. Cancer Rep (Hoboken). 2021-06-07 [PMID: 34101386]

M Terai, E Londin, A Rochani, E Link, B Lam, G Kaushal, A Bhushan, M Orloff, T Sato Expression of Tryptophan 2,3-Dioxygenase in Metastatic Uveal Melanoma Cancers (Basel), 2020-02-10;12(2):. 2020-02-10 [PMID: 32050636]

R Lee, J Li, J Li, CJ Wu, S Jiang, WH Hsu, D Chakravart, P Chen, KA LaBella, J Li, DJ Spring, D Zhao, YA Wang, RA DePinho Synthetic Essentiality of Tryptophan 2,3-dioxygenase 2 in APC-Mutated Colorectal Cancer Cancer Discovery, 2022-07-06;0(0):. 2022-07-06 [PMID: 35537038]

Pham QT, Oue N, Sekino Y et al. TDO2 Overexpression Is Associated with Cancer Stem Cells and Poor Prognosis in Esophageal Squamous Cell Carcinoma. Oncology 2018-08-22 [PMID: 30134247]

Woodling NS, Colas D, Wang Q et al. Cyclooxygenase inhibition targets neurons to prevent early behavioural decline in Alzheimer's disease model mice. Brain. 2016-05-13 [PMID: 27190010] (WB, Mouse)

Ohira K, Hagihara H, Toyama K et al. Expression of tryptophan 2,3-dioxygenase in mature granule cells of the adult mouse dentate gyrus. Mol Brain. 2010-09-05 [PMID: 20815922]

D'Amato NC, Rogers TJ, Gordon MA et al. A TDO2-AhR Signaling Axis Facilitates Anoikis Resistance and Metastasis in Triple-Negative Breast Cancer. Cancer Res 2015-09-11 [PMID: 26363006]







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## Products Related to H00006999-B01P

HAF007	Goat anti-Mouse IgG Secondary Antibody [HRP]
NB720-B	Rabbit anti-Mouse IgG (H+L) Secondary Antibody [Biotin]
NBP1-97019-5mg	Mouse IgG Isotype Control
NBP1-51014-0.01mg	Recombinant Human TDO2 His Protein

#### 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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