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TTBK1 Antibody

Catalog # ASC10846

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q5TCY1
Other Accession	Q5TCY1, 97203020
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	142737
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	TTBK1 antibody can be used for detection of TTBK1 by Western blot at 1 g/mL. Antibody can also be used for immunohistochemistry starting at 2.5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	84630
Other Names	Tau-tubulin kinase 1, 2.7.11.1, Brain-derived tau kinase, TTBK1, BDTK, KIAA1855
Target/Specificity	TTBK1; Multiple isoforms of TTBK1 are known to exist. This antibody is predicted to not cross-react with TTBK2.
Reconstitution & Storage	TTBK1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	TTBK1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	TTBK1
Synonyms	BDTK, KIAA1855
Function	Serine/threonine kinase which is able to phosphorylate TAU on serine, threonine and tyrosine residues. Induces aggregation of TAU.
Cellular Location	Cytoplasm.
Tissue Location	Expressed in the brain, particularly in cortical and hippocampal neurons.

Weakly expressed in spinal cord and testis. No expression in adipose tissue, bladder, cervix, colon, esophagus, heart, kidney, liver, lung, ovary, placenta, prostate, skeletal muscle, small intestine, spleen, testis, thymus, thyroid or trachea

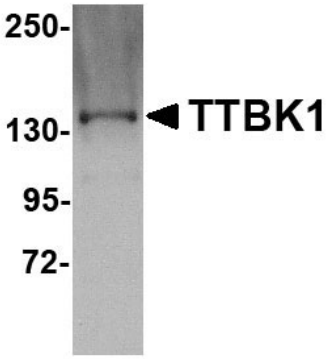
Background

TTBK1 Antibody: Tau tubulin kinase (TTBK1) belongs to the casein kinase 1 superfamily and is involved in the phosphorylation of specific serine/threonine residues in paired helical filaments of the tau protein. It is specifically expressed in the brain and induces tau aggregation in human neuronal cells in a dose-dependent manner. TTBK1 levels have been found to be upregulated in the brains of Alzheimer's disease (AD) patients, and mice expressing human TTBK1 protein showed significant age-dependent memory impairment. These mice displayed increased levels of the CDK5 activators p25 and p35, and reduced levels of the NMDA receptor types 2B and 2D, suggesting that TTBK1 may play a role in memory dysfunction in AD patients.

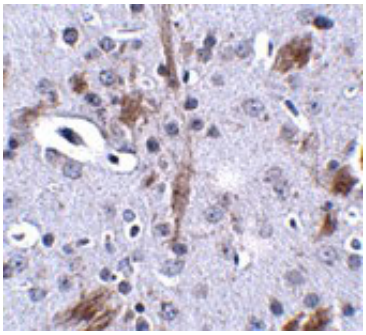
References

Sato S, Cerny RL, Bueschner JL, et al. Tau-tubulin kinase 1 (TTBK1), a neuron-specific tau kinase candidate, is involved in tau phosphorylation and aggregation. J. Neurochem. 2006; 98:1573-84.
Sato S, Xu J, Okuyama S, et al. Spatial learning impairment, enhanced CDK5/p35 activity, and downregulation of NMDA receptor expression in transgenic mice expressing tau-tubulin kinase 1. J. Neurosci. 2008; 28:14511-21.

Images

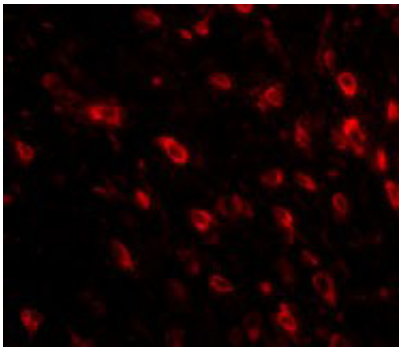


Western blot analysis of TTBK1 in Jurkat lysate with TTBK1 antibody at 1 µg/mL.



Immunohistochemistry of TTBK1 in mouse brain tissue with TTBK1 antibody at 2.5 µg/mL.

Immunofluorescence of TTBK1 in Human Brain tissue with TTBK1 antibody at 20 µg/mL.



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