

**TSHZ3 Antibody**  
**Catalog # ASC11452****Specification**

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**TSHZ3 Antibody - Product Information**

Application	WB, IHC, IF
Primary Accession	<a href="#">Q63HK5</a>
Other Accession	<a href="#">NP_065907</a> , <a href="#">127138957</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Application Notes	TSHZ3 antibody can be used for detection of TSHZ3 by Western blot at 1 µg/mL. Antibody can also be used for immunohistochemistry starting at 2.5 µg/mL. For immunofluorescence start at 2.5 µg/mL.

**TSHZ3 Antibody - Additional Information**

Gene ID	57616
<b>Target/Specificity</b>	
TSHZ3;	

**Reconstitution & Storage**

TSHZ3 antibody can be stored at 4°C for three months and -20°C, 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**

TSHZ3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**TSHZ3 Antibody - Protein Information**

**Name** TSHZ3

**Synonyms** KIAA1474, TSH3, ZNF537

**Function**

Transcriptional regulator involved in developmental processes. Functions in association with APBB1, SET and HDAC factors as a transcriptional repressor, that inhibits the expression of CASP4. TSHZ3-mediated transcription repression involves the recruitment of histone deacetylases HDAC1 and HDAC2. Associates with chromatin in a region surrounding the CASP4 transcriptional start site(s) (PubMed:<a href="http://www.uniprot.org/citations/19343227" target="\_blank">19343227</a>). Regulates the development of neurons involved in both respiratory rhythm and airflow control. Promotes maintenance of nucleus ambiguus (nA) motoneurons, which govern upper airway function, and establishes a respiratory rhythm generator

(RRG) activity compatible with survival at birth. Involved in the differentiation of the proximal uretic smooth muscle cells during developmental processes. Involved in the up-regulation of myocardin, that directs the expression of smooth muscle cells in the proximal ureter (By similarity). Involved in the modulation of glutamatergic synaptic transmission and long-term synaptic potentiation (By similarity).

#### Cellular Location

Nucleus {ECO:0000255|PROSITE-ProRule:PRU00108, ECO:0000269|PubMed:19343227}. Cell projection, growth cone. Note=Colocalizes with APBB1 in axonal growth cone (By similarity). Colocalizes with APBB1 in the nucleus.

#### Tissue Location

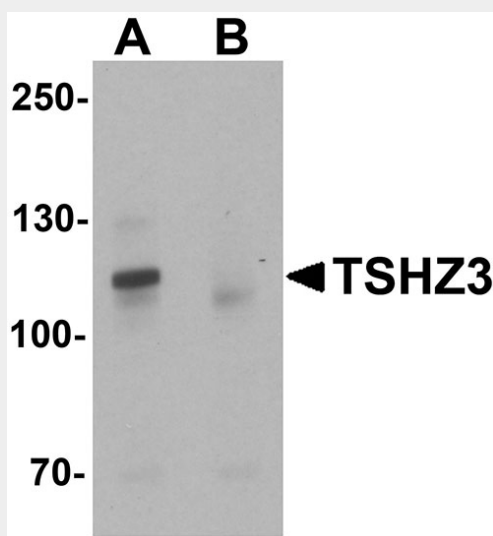
Expressed in brain; strongly reduced in post-mortem elderly subjects with Alzheimer disease (PubMed:18776146, PubMed:19343227). Expressed in the fetal neocortex (PubMed:27668656)

### TSHZ3 Antibody - Protocols

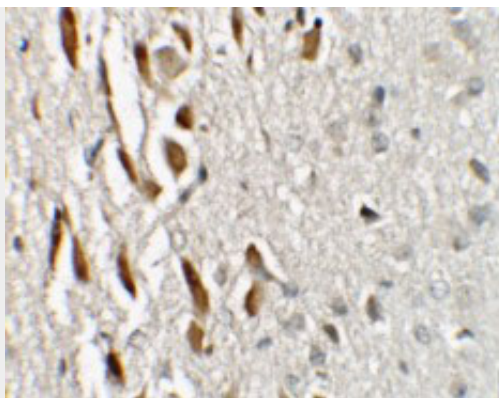
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

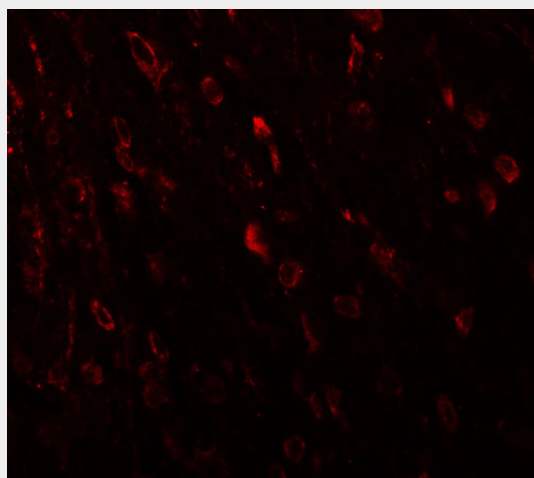
### TSHZ3 Antibody - Images



Western blot analysis of TSHZ3 in mouse brain tissue lysate with TSHZ3 antibody at 1 µg/mL in (A) the absence and (B) the presence of blocking peptide.



Immunohistochemistry of TSHZ3 in mouse brain tissue with TSHZ3 antibody at 2.5 µg/mL.



Immunofluorescence of TSHZ3 in mouse brain tissue with TSHZ3 antibody at 20 µg/mL.

### **TSHZ3 Antibody - Background**

**TSHZ3 Antibody:** The Teashirt zinc finger homeobox (TSHZ) family comprise a family of evolutionarily conserved transcription factors that, in *Drosophila*, are active in specific body parts for patterning, but whose function in vertebrates is less clear. In mice, the known three TSHZ proteins are expressed in distinct patterns in the developing and adult brain, suggesting that they play a role in the establishment of regional identity and specification of cell types within the brain. Both TSHZ3 and TSHZ1 have been found to interact with FE65, an adapter protein that binds to the amyloid protein precursor (APP) in neurons. Together with SET, a component of the inhibitor of acetyl transferase, and histone deacetylases, these proteins formed a gene-silencing complex whose target includes caspase-4. Recent experiments have also suggested this family of proteins may be involved in carcinogenesis.

### **TSHZ3 Antibody - References**

Caubit X, Core N, Boned A, et al. Vertebrate orthologues of the *Drosophila* region-specific patterning gene teashirt. *Mech. Dev.* 2000; 91:445-8.  
Santos JS, Fonseca NA, Vieira CP, et al. Phylogeny of the Teashirt-related zinc finger (tshz) gene family and analysis of the developmental expression of tshz2 and tshz3 in the zebrafish. *Dev. Dyn.* 2010; 239:1010-8.  
Caubit X, Tiveron MC, Cremer H, et al. Expression patterns of the three Teashirt-related genes define specific boundaries in the developing and postnatal mouse forebrain. *J. Comp. Neurol.* 2005; 486:76-88.  
Kajiwara Y, Akram A, Katsel P, et al. FE65 binds teashirt, inhibiting expression of the primate-specific caspase-4. *PLoS One* 2009; 4:e5071