Antibodies

Anti-Human TBR1 Antibody, Polyclonal

Rabbit polyclonal IgG antibody against human, mouse, rat TBR1, unconjugated

Catalog #100-1341

100 µL

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Product Description

This rabbit polyclonal antibody reacts with human, mouse, and rat T-box brain 1 (TBR1), a transcription factor highly expressed and involved in human development. The T-box transcription factor family consists of five subfamilies, with the TBR1 family of proteins responsible for brain development primarily through the function of T-box proteins that act as transcriptional activators and inhibitors. In particular, the function of TBR1 in brain development is primarily facilitated by the differentiation of neural stem cells (NSCs) in both developing and adult brains. Structurally, T-box transcription factors contain a conserved DNA-binding motif named T-box domain, spanning 180 - 200 amino acid residues to bind DNA. Mutations of the T-box gene have been linked to developmental disorders as well as the manifestation of certain cancers. Studies involving TBR1-deficient mice found defects in the frontal cortex and layer 6 differentiation.

Target Antigen Name:	TBR1
Alternative Names:	IDDAS, TBR-1, TES-56
Gene ID:	10716
Species Reactivity:	Human, Mouse, Rat
Host Species:	Rabbit
Clonality:	Polyclonal
Clone:	Not applicable
Isotype:	IgG
Immunogen:	Human Tbr1
Conjugate:	Unconjugated

Applications

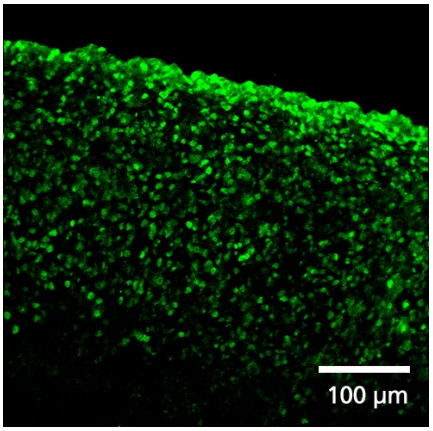
Verified:	ICC/IF
Special Applications:	This antibody clone has been verified for labeling TBR1-positive cortical neurons in human pluripotent stem cell (hPSC)-derived cerebral organoids generated with STEMdiff™ Cerebral Organoid Kit (Catalog #08570) and STEMdiff™ Cerebral Organoid Maturation Kit (Catalog #08571).

Abbreviations: CellSep: Cell separation; ChIP: Chromatin immunoprecipitation; FA: Functional assay; FACS: Fluorescence-activated cell sorting; FC: Flow cytometry; ICC: Immunocytochemistry; IF: Immunofluorescence microscopy; IHC: Immunohistochemistry; IHC-P: Immunohistochemistry (paraffin-embedded); IP: Immunoprecipitation; RIA: Radioimmunoassay; WB: Western blotting

Properties

Formulation:	Phosphate-buffered saline, pH 7.3, containing 0.02% sodium azide and 50% glycerol
Purification:	The antibody was purified by affinity chromatography.
Stability and Storage:	Product stable at -20°C when stored undiluted. Avoid repeated freeze-thaw cycles. Stable until expiry date (EXP) on label.
Directions for Use:	The suggested use for this antibody is: ICC/IF, 2 µg/mL. It is recommended that the antibody be titrated for optimal performance for each application. For antibody concentration, refer to the lot-specific Certificate of Analysis at www.stemcell.com/coa.

Data



hPSC-derived cerebral organoids were generated using STEMdiff™ Cerebral Organoid Kit and STEMdiff™ Cerebral Organoid Maturation Kit. Fixed and cryosectioned samples were antigen retrieved and then labeled with Anti-Human TBR1 Antibody, followed by Goat Anti-Rabbit IgG (H+L) Antibody, Polyclonal, iFluor™ 488 (green) (Catalog #100-1082).

Related Products

For a complete list of antibodies, including other conjugates, sizes, and clones, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/antibodies, or contact us at techsupport@stemcell.com.

References

1. Papaioannou V E. (2014) The T-box gene family: emerging roles in development, stem cells and cancer. Development 141(20): 3819–33.

2. Bedogni F et al. (2010) Tbr1 regulates regional and laminar identity of postmitotic neurons in developing neocortex. Proceedings of the National Academy of Sciences 107(29): 13129–34.

3. Chen CC & Chang CA. (1998) Characterization of a potyvirus causing mild mosaic on tuberose. Plant Disease 82(1): 45–9.

4. Büttner N et al. (2010) Af9/Mllt3 interferes with Tbr1 expression through epigenetic modification of histone H3K79 during development of the cerebral cortex. Proceedings of the National Academy of Sciences 107(15): 7042–7.

5. Hevner RF et al. (2001) Tbr1 regulates differentiation of the preplate and layer 6. Neuron 29(2): 353–66.