

# ZYMED® Laboratories

invitrogen immunodetection

Qty: 50µg/200 µL

Rabbit anti-PiTX3

Catalog No. 38-2850

Lot No.

## Rabbit anti-PiTX3

### FORM

This polyclonal antibody is supplied as a 200 µL aliquot at a concentration of 0.25 mg/mL in phosphate buffered saline (pH 7.4) containing 0.1% sodium azide. This antibody is epitope-affinity purified from rabbit antiserum.

**PAD:** ZMD.359

### IMMUNOGEN

Synthetic peptide derived from the N-terminal region of the mouse PiTX3 protein.

### SPECIFICITY

This antibody reacts with the mouse PiTX3 protein. On Western blots, it identifies a single band at ~32 kDa. Bands of unknown origin are observed in Western blot at ~40 and 50 kDa.

### REACTIVITY

Reactivity has been confirmed with fetal mouse brain homogenate. For optimal results in immunofluorescent assay, we recommend fixing the mouse brain in 4% paraformaldehyde overnight.

Sample	Western Blotting	Immunohistochemistry (Fixed tissues*)	Immuno-fluorescence
Mouse	+	+++	+++

(Excellent +++, Good++, Poor +, No reactivity 0, Not applicable N/A, Not Determined ND)

\*Perfuse the animal with paraformaldehyde. After perfusion, brains were stored in 4% paraformaldehyde, sunk in 30% sucrose, and frozen.

### USAGE

Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

**Immunohistochemistry:** 0.7-2 µg/mL

**Immunofluorescence:** 0.7-2 µg/mL

**Western Blotting:** 1-3 µg/mL

### STORAGE

Store at 2-8°C for up to one month. Store at -20°C for long-term storage. Avoid repeated freezing and thawing.

(cont'd)

www.invitrogen.com

Invitrogen Corporation • 1600 Faraday Avenue • Carlsbad • CA 92008 • Tel: 800.955.6288 • E-mail: tech\_support@invitrogen.com

PIN:31575

Rev. 12/06

DCC-06-0084

Copyright 2005, Zymed Laboratories

**BACKGROUND**

The paired-like homeodomain transcription factor-3 (PITX3) is a member of the homeodomain family of DNA binding proteins known as the RIEG/PITX homeobox gene family.<sup>1</sup> The PITX (PTX) family of homeobox transcription factors includes PITX1, PITX2 and PITX3. PITX3 is associated with early ocular development and is later expressed in other organs and limbs.<sup>1</sup> PITX3 is expressed in the eyes (specifically the developing lens), and has a highly restricted expression pattern in the brain. PITX3 expression in the midbrain starts just before terminal differentiation of dopaminergic neurons (DA). PITX3 can act on the promoter of the Tyrosine hydroxylase (TH) gene in a cell-type dependent fashion, suggesting that PITX3 contributes to the regulation of TH expression in mesDA.<sup>2</sup>

A double deletion of the mouse PITX3 gene causes arrested lens development in the recessive aphakia (ak) mouse mutant, which is characterized by small eyes that lack lenses.<sup>3</sup> Mutations of the PITX3 gene have been associated with anterior segment dysgenesis and a familial form of congenital cataracts.<sup>1</sup> PITX3 is required for motor activity and for survival of mesDA. The degeneration of mesDA is the cause of Parkinson's disease (PD)<sup>4</sup> and results in striatal dopamine deficiency and hypokinetic movement disorder.

**REFERENCES**

1. Semina EV, et al. *Nat Genet* 19:167-170, 1998.
2. Cazorla P, et al. *J Neurochem* 74:1829-1837, 2000.
3. Rieger DK, et al. *Genomics* 72:61-72, 2001.
4. van den Munckhof P, et al. *Development* 130:2535-2542, 2003.

**RELATED PRODUCTS**

<b>Product</b>	<b>Conjugate</b>	<b>Cat. No.</b>
Protein A	Sepharose <sup>®</sup> 4B	10-1041
rec-Protein G	Sepharose <sup>®</sup> 4B	10-1241

<b>Conjugate</b>	<b>ZyMAX<sup>™</sup> Goat x Rabbit IgG (H+L)</b>	<b>ZyMAX<sup>™</sup> Goat x Mouse IgG (H+L)</b>
Purified	81-6100	81-6500
FITC	81-6111	81-6511
TRITC	81-6114	81-6514
Cy <sup>™</sup> 3	81-6115	81-6515
Cy <sup>™</sup> 5	81-6116	81-6516
HRP	81-6120	81-6520
AP	81-6122	81-6522
Biotin	81-6140	81-6540

Zymed<sup>®</sup> and ZyMAX<sup>™</sup> are trademarks of Zymed Laboratories Inc. Cy<sup>™</sup> and Sepharose<sup>®</sup> are trademarks of Amersham Biosciences Ltd.

**For Research Use Only**

TM040419

www.invitrogen.com

Invitrogen Corporation • 1600 Faraday Avenue • Carlsbad • CA 92008 • Tel: 800.955.6288 • E-mail: tech\_support@invitrogen.com

PIN:31575

Rev. 12/06

DCC-06-0084

Copyright 2005, Zymed Laboratories