

## New Item

INTERNATIONAL

### cAMP-dependent phosphodiesterase Type 10A-antibodies (PD10A-100P and PD10A-101AP)

Cyclic nucleotides are important intracellular second messengers which play important role variety of signal transduction process. The cyclic nucleotides are hydrolyzed and compartmentalized by a family of enzymes called phosphodiesterases. One of the many phosphodiesterases that compartmentalized and hydrolyze cAMP and cGMP in to AMP and GMP respectively are phosphodiesterase type 10. Only one member of the cAMP and cGMP-specific phosphodiesterase type-10 (PDE10) family is cloned and characterized. The PDE10A gene is expressed in at least two variant forms (PDE10A1, PDE10A2) generated by RNA splicing and or use of alternate initiation sites (1). The PDE10 gene was first cloned from fetal human lung tissue library using bioinformatics approach (2). The deduced amino acid sequence contains 779 amino acids (MW 93-95 kDa) including a putative cGMP binding domain near the N-terminal region of the protein. The catalytic portion is 16-47% identical to other PDEs and PDE10 hydrolyze cAMP and cGMP with Km 0.26 and 7.2 uM with Vmax for cGMP twice as much that for cAMP. The presence of cAMP inhibits the hydrolysis of cGMP and vice versa. PDE10A is widely expressed in putamen and caudate nucleus in the brain, thyroid and testis. Surprisingly the expression of PDE10A was also abundant in Heart (see figure 1). *FabGennix Inc.* also provides antibodies to other PDE family members. The PDE-selective antibodies are also available for family-subtype-selective and family-subtype-variant selective antibodies for detailed analyses of cyclic nucleotide signaling pathways. The PDE10A-selective antibodies (PD10A-100P and PD10A-101AP) are generated against a common sequence near the 250-325 amino acids down stream from N-terminus. The multiple antigenic peptide (MAP) was generated using multiple antigen peptide resin. The polyclonal antibody (PD10A-100P/101AP) labels a 93 and 95 kDa PDE10A1 and PDE10A2 variants in striatum, testis and pancreas. The PDE10A-specific antiserum has no cross reactivity against any other PDE family members tested so far.

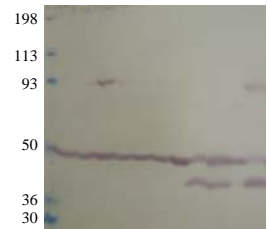
The PDE10A-selective antibody (PD10A-100P/101AP) was generated using multiple antigenic peptide methodology that results in higher titer and specificity. PDE10A-selective antibody is also available in affinity purified form for confocal, Western blotting and immunocytochemical analyses. *FabGennix Inc.* will also conjugate antibodies with enzymes, fluorescent probes upon request at extra charge.

| Catalog #   | Host species | Nature               | Cross reactivity | Quantity       | Price/vol  |
|-------------|--------------|----------------------|------------------|----------------|------------|
| PD10A-100P  | Rabbit       | Polyclonal antiserum | R, M, H, monk    | 100 ul         | 205        |
| PD10A-101AP | Rabbit       | Affinity Purified    | R, M, H, monk    | 100 ug         | 235        |
| PC-PD10A    | Protein      | WB positive control  | R, M, H          | 5 applications | 175/250 ul |
| MAP-PD10    | Antigen      | MAP-PDE10A antigen   | n/a              | 250 ug         | 250 ul     |

R = rat; M = mouse; H = human; C = chicken; monk = monkey ; \* not all variants are labeled equally

- Immunogen:** Synthetic MAP (common to all PDE10A variants)
- Concentration:** PD10A-100P Neat serum with out preservatives  
PD10A-101AP IgG concentration 0.7-0.75 mg/ml in antibody stabilization buffer.
- Applications:** Antibody PD10A-100P and PD10A-101AP is ideal for IP/ PDE10 activity measurement and for IHC. Other applications are not tested. The dilutions for this antibody is for reference only, investigators are expected to determine the optimal conditions for specific assay in his/her laboratory. WB > 1:500 ; IP & i.p pull-down assays: > 1:250
- Reactivity:** This antibody detects a 90-93kDa PDE10A proteins from rat brain and pancreas.
- Protocols:** Standard protocol for various applications (Western blot; immunoprecipitation and immunohistochemistry) of this antibody is provided with the product specification sheet, however, *FabGennix Inc.* strongly recommends investigators to optimize conditions for use of this antibody in their laboratories.
- Form/Storage:** The antiserum is supplied in antibody stabilization buffer with 0.02% thimerosal or merthiolate. The affinity-purified antibodies are purified on antigen-speharose affinity column and supplied as 0.6-0.75 mg/ml IgG in antibody stabilization buffer containing preservatives. For long-term storage of antibodies, store at -20°C. Now these antibodies can be stored at -20°C and used immediately with out thawing. *FabGennix Inc.* does not recommend storage of very dilute antibody solutions unless they are prepared in specially formulated multi use antibody dilution buffer (Cat # DiluOBuffer). Working solutions of antibodies in DiluOBuffer should be filtered through 0.45µ filter after every use for long-term storage.

1 2 3 4 5 6 7 8 9 10 11



- 1: Frontal Cortex
- 2: Parietal Cortes
- 3: Striatum
- 4: Amygdela
- 5: Hypothalamus
- 6: Hippocampus
- 7: Olfactory Bulb
- 8: Brain Stem
- 9: Cerebellum
- 10: Spinal Cord
- 11: Whole Brain

Fig: Western using PD10A-101AP and various rat brain regions (See catalog #). PDE10A antibody (PD10A-101AP) 1:500 diluted: Lot # .

#### References:

1. Kotera J., Fugishge K., Yuasa K., Omari K. *Bio. Chem. Biophys. Res. Comm.* 261, 551-557, 1999.
2. Fujishige, K., Kotera J., Omori K. *Eur. J. Biochem.* 266, 1118-1127, 1999.

\* For users who may require large amounts of PD10A-100P or PD10A-101AP, please enquire about bulk material discounts.

This Product is for Research Use Only and is NOT intended for use in humans or clinical diagnosis.

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