**BACKGROUND**

Phosphodiesterases (PDE, also designated cyclic nucleotide phosphodiesterase) are important for the downregulation of the intracellular level of the second messenger cyclic adenosine monophosphate (cAMP) by hydrolyzing cAMP to 5’AMP. Phosphodiesterase type three isoforms, PDE3A and 3B, are expressed primarily in cardiovascular tissue and adipose tissue, respectively. PDE3A, is found in myocardium and platelets and PDE3B is found in lymphocytes. The PDE7A1 (HCP1) isozyme and the PDE7A2 proteins, alternate splice products of PDE7A, are highly expressed in skeletal muscle. PDE7B is most highly expressed in pancreas. The PDE family contains proteins that serve tissue-specific roles in regulation of lipolysis, glycogenolysis, myocardial contractility, and smooth muscle relaxation.

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: PDE7A (human) mapping to 8q13.1; Pde7a (mouse) mapping to 3 A2.

**SOURCE**

PDE7A (B-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 451-482 at the C-terminus of PDE7A of human origin.

**PRODUCT**

Each vial contains 200 µg IgG2κ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PDE7A (B-11) is available conjugated to agarose (sc-398031 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398031 HRP), 200 µg/ml, for WB, IHC/IP and ELISA; to either phycocyanin (sc-398031 PE), fluorescein (sc-398031 FITC), Alexa Fluor® 488 (sc-398031 AF488), Alexa Fluor® 546 (sc-398031 AF546), Alexa Fluor® 594 (sc-398031 AF594) or Alexa Fluor® 647 (sc-398031 AF647), 200 µg/ml, for WB (RGB), IF, IHC/IP and FCM; and to either Alexa Fluor® 680 (sc-398031 AF680) or Alexa Fluor® 790 (sc-398031 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398031 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

**STORAGE**

Store at 4°C. **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

**APPLICATIONS**

PDE7A (B-11) is recommended for detection of PDE7A1 and PDE7A2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation (1-2 µg per 100-500 µg total protein (1 ml of cell lysate)), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).


Molecular Weight of PDE7A: 57/50 kDa.

**RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG HRP: sc-516102 or m-IgG HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker® Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

3) Immunofluorescence: use m-IgG HRP: sc-516102 or m-IgG HRP, Alexa Fluor® 488 (sc-398031 AF488), Alexa Fluor® 594 (sc-398031 AF594) or Alexa Fluor® 647 (sc-398031 AF647), 200 µg/ml, for WB (RGB), IF, IHC/IP and FCM; and to either Alexa Fluor® 680 (sc-398031 AF680) or Alexa Fluor® 790 (sc-398031 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

**DATA**

**RESEARCH USE**

For research use only, not for use in diagnostic procedures.

**PROTOCOLS**

See our web site at www.scbt.com for detailed protocols and support products.

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