

**Anti-DBH-SAP  
TARGETED TOXIN**

*[antibody to dopamine beta-hydroxylase]-saporin  
targets rat dopamine beta-hydroxylase (DBH)*

**Catalog Number:** IT-03  
**Quantity:** 25 micrograms, 100 micrograms, 250 micrograms  
**Format:** PBS (0.14 M Sodium Chloride; 0.003 M Potassium Chloride; 0.002 M Potassium Phosphate; 0.01 M Sodium Phosphate; pH 7.4), no preservative. Sterile-filtered.  
**Host:** Mouse

**Background:**

Targeted toxins are powerful and specific lesioning agents used in the technique known as Molecular Surgery. The ribosome-inactivating protein, saporin (from the seeds of the plant, *Saponaria officinalis*) is bound to a targeting agent (anything that is recognized on the cell surface and internalized). The targeted toxin is administered to the cells (*in vitro* or *in vivo*). The targeting agent seeks out and binds to its target on the cell surface. The conjugate is internalized, saporin breaks away from the targeting agent, and inactivates the ribosomes which causes protein inhibition and, ultimately, cell death. Cells which do not have the cell surface marker are not affected.

**Specificity and Preparation:**

This targeted toxin (molecular weight 210 kDa) recognizes cells that express dopamine beta-hydroxylase in rat.

\* Anti-DBH-SAP is a chemical conjugate of the mouse monoclonal antibody to dopamine beta-hydroxylase and the ribosome-inactivating protein, saporin.

\* Also known to react with mouse, cow, and sheep, other species not confirmed.

**Usage and Storage:**

Anti-DBH-SAP specifically eliminates cells that express dopamine beta-hydroxylase. All other cells are left untouched. **There may be lot-to-lot variation in material; working dilutions must be determined by end user. If this is a new lot, you must assess the proper working dilution before beginning a full experimental protocol.**

Centrifuge material at low speed in microfuge to ensure all of solution is at bottom of tube. Vortex gently. Store the material in undiluted aliquots at  $-20^{\circ}\text{C}$  for 1-2 months. For longer term storage store the material at  $-80^{\circ}\text{C}$ . Material should be aliquoted to a convenient volume and quantity to avoid repeated freezing and thawing that can damage the protein content. Under these conditions, the material has a very stable shelf-life. Thawing should be done at room temperature or on ice. The thawed solution should remain on ice until use.

Do not use a reducing agent (such as dithiothreitol, beta-mercaptoethanol or ascorbic acid) with this material. It will inactivate the toxin.

This material is an extremely potent cytotoxin. Handling should be done by experienced personnel. Gloves and safety glasses are required when handling this product. Care in disposal is mandatory; autoclaving or exposure to 0.2 M sodium hydroxide will inactivate the material. All labware that comes into contact with this material should be likewise treated.

**Available Control(s):** Saporin, Mouse IgG-SAP

**Anti-DBH-SAP  
TARGETED TOXIN**

**References:**

1. Harle P, Pongratz G, Albrecht J, Turner IH, Straub RH (2008) An early sympathetic nervous system influence exacerbates collagen-induced arthritis via CD4+CD25+ cells. *Arthritis Rheum* 58:2347-2355.
2. Harle P, Mobius D, Carr DJ, Scholmerich J, Straub RH (2005) An opposing time-dependent immune-modulating effect of the sympathetic nervous system conferred by altering the cytokine profile in the local lymph nodes and spleen of mice with type II collagen-induced arthritis. *Arthritis Rheum* 52:1305-1313.
3. Bitner RS, Nikkel AL (2002) Alpha-7 nicotinic receptor expression by two distinct cell types in the dorsal raphe nucleus and locus coeruleus of rat. *Brain Res* 938:45-54.
4. Kingery WS, Agashe GS, Guo TZ, Sawamura S, Davies MF, Clark JD, Kobilka BK, Maze M (2002) Isoflurane and nociception: Spinal alpha2A adrenoceptors mediate antinociception while supraspinal alpha1 adrenoceptors mediate pronociception. *Anesthesiol* 96:367-374.
5. Daniels D, Miselis RR, Flanagan-Cato LM (2001) Transneuronal tracing from sympathectomized lumbar epaxial muscle in female rats. *J Neurobiol* 48(4):278-290.
6. Schroeter S, Apparsundaram S, Wiley RG, Miner LH, Sesack SR, Blakely RD (2000) Immunolocalization of the cocaine- and antidepressant-sensitive 1-norepinephrine transporter. *J Comp Neurol* 420:211-232.
7. Blessing WW, Lappi DA, Wiley RG (1998) Destruction of locus coeruleus neuronal perikarya after injection of anti-dopamine-beta-hydroxylase immunotoxin into the olfactory bulb of the rat. *Neurosci Lett* 243:85-88.

**Safety:**

Good laboratory technique must be employed for safe handling of this product.

This requires observation of the following practices:

1. Wear appropriate laboratory attire, including lab coat, gloves and safety glasses.
2. Do not pipet by mouth, inhale, ingest or allow product to come into contact with open wounds. Wash thoroughly any part of the body which comes into contact with the product.
3. Avoid accidental autoinjection by exercising extreme care when handling in conjunction with any injection device.
4. This product is intended for research use by qualified personnel only. It is not intended for use in humans or as a diagnostic agent. Advanced Targeting Systems is not liable for any damages resulting from the misuse or handling of this product.