

Galanin-SAP
TARGETED SAP CONJUGATE

*a tool for eliminating cells that express galanin-1 receptor;
targeted via rat galanin, eliminated via saporin*

Catalog Number: IT-34
Quantity: 25 micrograms, 100 micrograms, 250 micrograms, 1 milligram
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). Sterile-filtered.
Host: Rat

Background:

Targeted SAP conjugates 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 conjugate is administered to 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 that do not have the cell surface marker are not affected.

Galanin is a 29-amino acid peptide (30 amino acids in humans) implicated in a variety of functions including nociception, appetite, learning, and memory. It is widely distributed throughout the neural and endocrine systems, playing roles in the secretion of insulin, somatostatin, glucagon, dopamine, and growth hormone, and inhibiting the release of acetylcholine and substance P from myenteric neurons. Galanin-SAP eliminates cells expressing the galanin-1 receptor. It is not suitable for retrograde transport.

Specificity and Preparation:

This targeted toxin (molecular weight 33 kDa) recognizes the galanin-1 receptor. Galanin is a 29-amino acid peptide (30 amino acids in humans) implicated in a variety of functions including nociception, appetite, learning, and memory. Galanin-SAP is a chemical conjugate of rat galanin and the ribosome-inactivating protein, saporin. This product is routinely tested by cytotoxicity assay.

Usage and Storage:

Galanin-SAP eliminates cells expressing the galanin-1 receptor. All other cells are left untouched, even when they are the predominant cell type. Not suitable for retrograde transport. **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.**

Gently spin down material before use; 5-10 seconds in a microfuge should be adequate. Store the material in undiluted aliquots at -20°C for 1-2 months. For longer term storage store the material at -80°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.



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Available Control(s): Blank-SAP

References:

1. Wiley RG, Kline IV RH, Lappi DA (2004) Intrathecal Galanin-saporin and NPY-saporin reduce nocifensive responses to noxious heat and formalin. *Soc Neuroscience Mtg San Diego CA*, Abstract #292.15.

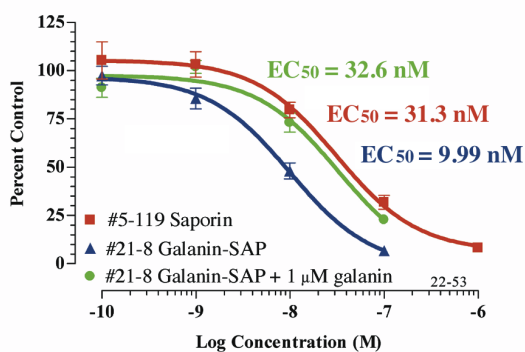
Safety:

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.

To view protocol(s) for this and other products please visit: www.ATSBio.com/support/protocols



Bowes melanoma cells were plated at 1000 cells/90 μ l/well in a 96-well plate and incubated overnight. Saporin, galanin-SAP, or galanin-SAP + 1 μ M galanin peptide were added to the plates in 10 μ l volumes, and the plates were incubated for 72 hours. The plates were developed with PMS/MTS for 30 minutes to 1 hour, then read at 492 nm in a plate reader. Data analysis was done by PRISM (GraphPad, San Diego).