Advanced Targeting Systems

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Mac-1-SAP rat

TARGETED SAP CONJUGATE

[biotinylated rat monoclonal antibody to CD11b/c]-streptavidin-saporin

Catalog Number: IT-105
Quantity: 25 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.
Host: Mouse

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.
CD11b is an alpha subunit of Mac-1, also known as CR3. Mac-1-SAP targets rat species using a monoclonal antibody targeting CR3 complement (C3bi) receptor expressed on macrophages, granulocytes, monocytes, NK cells, and dendritic cells. This antibody can recognize a shared common epitope between CD11b and CD11c. CD11b/c are involved in bacterial phagocytosis and are components of integrins, important for adhesion of neutrophils to surfaces. Mac-1-SAP is a potential tool for removing contaminating macrophages from primary cultures to determine their role(s) in autoimmune diseases and in degenerative disease such as Alzheimer's.

Specificity & Preparation: This targeted toxin recognizes cells that express rat CD11b/c. Mac-1-SAP is a bonded toxin between a biotinylated rat monoclonal antibody to CD11b/c and the secondary conjugate Streptavidin-ZAP containing the ribosome-inactivating protein, saporin.

Usage: Mac-1-SAP rat eliminates cells expressing rat CD11b/c. All other cells are left untouched. There may be lot-to-lot variation in material; working dilutions must be determined by the end user. End users must assess the proper working dilution before beginning a full experimental protocol.

Storage: Gently spin down material 5-10 seconds in a microfuge before use. Store the material in undiluted aliquots at –20°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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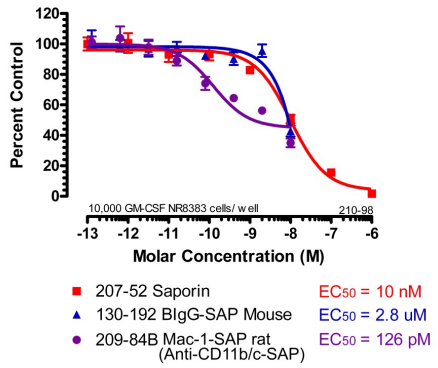
Control(s): BIgG-SAP Mouse

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/library/protocols



NR8383 cells (rat macrophage cell line) treated with granulocyte-macrophage colony-stimulating factor (GM-CSF) were plated at 10,000 cells per well/90 ul in 96-well plates and acclimated overnight at 37°C. Saporin (Cat. #PR-01), BIgG-SAP Mouse (Cat. #IT -74), and Mac-1-SAP Rat (Cat. #IT-105) were serially diluted and added in 10 ul volumes and the plate left to incubate at 37°C for 72 hours. XTT/PMS developing reagents were added and the plates read at 490 nm. Data analyzed using Prism software (GraphPad).