

**acLDL-SAP**
TARGETED SAP CONJUGATE

*a tool for eliminating cells that express microglia in primary cell cultures;
targeted via acetylated human low density lipoprotein, eliminated via saporin*

Catalog Number: IT-08
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), no preservative. Sterile-filtered.
Host: Human

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.

Acetylated-LDL-Saporin (acLDL-SAP) has been used effectively to eliminate microglia from primary cultures of rat hippocampal neurons, while having no deleterious effect on neurons or astroglia. After 24 hours exposure, 3 $\mu\text{g/ml}$ of acLDL-SAP selectively kills more than 90% of microglia cells. acLDL-SAP is excellent for removing contaminating macrophages from primary cultures to determine their role(s) in autoimmune diseases and in degenerative diseases such as Alzheimer's.

Specificity & Preparation: This targeted toxin recognizes cells that express the scavenger receptor. Acetylated LDL-SAP is a chemical conjugate of acetylated human low density lipoprotein and the ribosome-inactivating protein, saporin. This product is routinely tested by cytotoxicity assay.

Usage: Acetylated LDL-SAP eliminates scavenger receptor-positive cells. This includes the macrophage and its relative, the microglia. All other cells are left untouched. 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.**

Storage: Gently spin down material 5-10 seconds in a microfuge before use. Store at 4°C. DO NOT STORE FROZEN. The material may display diminished activity as a result of repeated freezing and thawing. 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.



acLDL-SAP
TARGETED SAP CONJUGATE



Selected References:

1. Giulian D, Haverkamp LJ, Yu JH, Karshin W, Tom D, Li J, Kirkpatrick J, Kuo YM, Roher AE (1996) Specific domains of β -amyloid from Alzheimer plaque elicit neuron killing in human microglia. *J Neurosci* 16:6021-6037.
2. Giulian D, Yu J, Li X, Tom D, Li J, Wendt E, Lin S-N, Schwarcz R, Noonan C (1996) Study of receptor-mediated neurotoxins released by HIV-1-infected, mononuclear phagocytes found in human brain. *J Neurosci* 16:3139-3153.

Scan to view all product references.

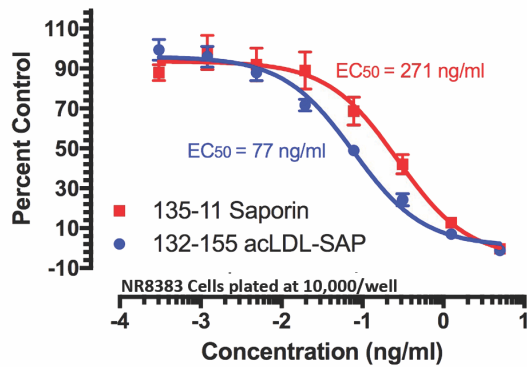
Control(s): Saporin

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 were plated at 10,000 cells/well in a 96-well plate and incubated overnight. Saporin and acLDL-SAP were added in 10 microliter volumes and the plates incubated for 72 hours. The plates were developed with XTT/PMS and were read at 450 nm in a plate reader. Data analyzed by PRISM software (GraphPad, San Diego.)