

OX7-SAP
TARGETED SAP CONJUGATE

*a tool for eliminating cells that express Thy-1.1 in rat, mouse, rabbit or guinea pig;
targeted via the antibody to CD90 (OX7), eliminated via saporin*

Catalog Number: IT-02
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: 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.

OX7, also known as Thy-1, Thy 1.1 or CD90, is expressed on a variety of cell types including thymocytes, neuronal cells, stem cells, T lymphocytes (mouse), immature B cells (rat) and connective tissues. It is involved in regulation of adhesion and signal transduction by T cells. It may contribute to inhibition of proliferation differentiation of hematopoietic stem cells and neuron memory formation in the CNS. Administration of OX7-SAP results in elimination of Thy-1.1-positive cells in rat, mouse, rabbit, or guinea pig. Permanent and selective removal of Thy-1.1 positive cells makes an important animal model for the study of neurotransmitter receptors, neuroanatomy, neural response to injury, and inducible immune suppression. This makes OX7-SAP an excellent tool for specific targeting of neuronal projections through suicide transport.

Specificity and Preparation:

This targeted toxin recognizes cells that express Thy-1.1 in rat, mouse, rabbit or guinea pig. Note: Antibody reactivity and working conditions may vary between species. OX7-SAP is a chemical conjugate of the mouse monoclonal antibody OX7 (Cat. #AB-N08) and the ribosome-inactivating protein, saporin (Cat. #PR-01). This product is routinely tested by cytotoxicity assay.

Usage and Storage:

OX7-SAP specifically eliminates cells that express Thy-1.1. 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.**

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. The material can be handled safely using normal laboratory precautions.

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

For disposal: autoclave, or expose to 0.2 M NaOH, materials that come into contact with the toxin.



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Available Control(s): Antibody to OX7 (Anti-Thy 1.1), Mouse IgG-SAP

References:

1. Wrenn CC, Wiley RG (2001) Lack of effect of moderate Purkinje cell loss on working memory. *Neurosci* 107(3):433-445.
2. Angner RT, Kelly RM, Wiley RG, Walsh TJ, Reuhl KR (2000) Preferential destruction of cerebellar Purkinje cells by OX7-saporin. *Neurotoxicol* 21:395-403.
3. Gandhi CC, Kelly RM, Wiley RG, Walsh TJ (2000) Impaired acquisition of a Morris water maze task following selective destruction of cerebellar Purkinje cells with OX7-saporin. *Behav Brain Res* 109:37-47.
4. Salo PT, Theriault E, Wiley RG (1997) Selective ablation of rat knee joint innervation with injected immunotoxin: a potential new model for the study of neuropathic arthritis. *J Orthop Res* 15:622-628.
5. Davis TL, Wiley RG (1989) Anti-Thy-1 immunotoxin, OX7-saporin, destroys cerebellar Purkinje cells after intraventricular injection in rats. *Brain Res* 504:216-222.

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.

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