

Anti-RGR-SAP
TARGETED SAP CONJUGATE

*a tool for eliminating cells that express RGR;
targeted via a biotinylated antibody to RGR and eliminated via saporin*

Catalog Number: BETA-036
Quantity: 25 micrograms
Format: PBS and <0.1% sodium azide

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.

RGR is a putative retinal G-protein coupled receptor. The protein acts as a photoisomerase to catalyze the conversion of all-trans-retinal to 11-cis-retinal. The reverse isomerization occurs with rhodopsin in retinal photoreceptor cells. RGR is expressed exclusively in tissue adjacent to retinal photoreceptor cells, the retinal pigment epithelium, and Muller cells. The RGR gene may be associated with autosomal recessive and autosomal dominant retinitis pigmentosa (arRP and adRP, respectively).

Specificity and Preparation:

This targeted toxin recognizes cells that express RGR. Anti-RGR-SAP is a bonded toxin between a biotinylated immunopurified rabbit polyclonal RGR-opsin antibody and the secondary conjugate Streptavidin-ZAP (IT-27) containing the ribosome-inactivating protein, saporin. This antibody is predicted to bind to RGR in several species. Percent identity with other species by BLAST analysis: Human, Gorilla, Gibbon, Monkey, Marmoset, Horse, Xenopus (100%); Bovine (94%); Mouse, Rat, Hamster, Elephant, Panda, Rabbit, Pig, Platypus (88%); Dog, Turkey, Chicken, Pufferfish, Zebrafish (81%). RGR antibody was raised against synthetic 16 amino acid peptide from 2nd extracellular domain of human RGR.

Usage and Storage:

Anti-RGR-SAP eliminates cells expressing RGR. 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. 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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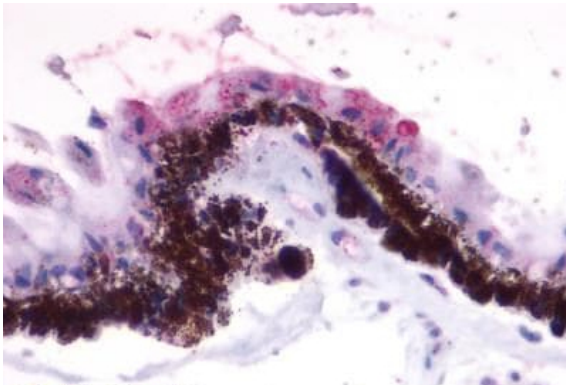
Available Control(s): BIgG-SAP Rabbit

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.



RGR antibody AB-N45 IHC of human eye, pigmented epithelium within the retina. Immunohistochemistry of formalin-fixed, paraffin-embedded tissue after heat-induced antigen retrieval.