

**CRF-SAP**
TARGETED SAP CONJUGATE

*a tool for eliminating cells that express the corticotropin-releasing factor (hormone) receptor 1;
targeted via human/rat CRF, eliminated via saporin*

Catalog Number: IT-13
Quantity: 25 micrograms, 100 micrograms, 250 micrograms, 1 milligram
Format: 50 mM Borate + 0.14 M NaCl pH 8.5
Host: Human/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.

Corticotropin-releasing hormone/factor (CRH/CRF) is the principal neuropeptide involved in regulating the stress response. It stimulates ACTH release from the pituitary gland. When centrally administered to animals it produces somatic changes analogous to those seen in both depression and anxiety. In humans, it is capable of reproducing the hormonal changes which are characteristically seen in depressed patients. CRF-SAP eliminates cells expressing the CRF1 receptor making it an effective tool to determine their neurobiological role(s). CRF-SAP is not suitable for retrograde transport.

Specificity & Preparation: This targeted toxin (molecular weight 35 kDa) recognizes cells that express the corticotropin-releasing factor (hormone) receptor 1 (CRF1 receptor). CRF-SAP is a chemical conjugate of human/rat CRF and the ribosome-inactivating protein, saporin. This toxin contains trace amounts of free CRF peptide.

Usage: CRF-SAP eliminates cells expressing the CRF₁ receptor. 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 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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Selected References:

1. Fox K, Wolff I, Curtis A, Pernar L, Van Bockstaele EJ, Valentino RJ (2002) Multiple lines of evidence for the existence of corticotropin-releasing factor (CRF) receptors on locus coeruleus (LC) neurons. *Soc Neurosci Mtg, Orlando FL*, Abstract #637.9.
2. Maciejewski-Lenoir D, Heinrichs SC, Liu X-J, Ling N, Tucker A, Xie Q, Lappi DA, Grigoriadis DE (2000) Selective impairment of corticotropin-releasing factor₁ (CRF₁) receptor-mediated function using CRF coupled to saporin. *Endocrinol* 141:498-504.

Control(s): Blank-SAP**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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