Targeting Talk: Product Q&A

Q: I ordered a targeted toxin. Will it come in powder form? How do I re-dissolve it?

A: Our Saporin conjugate products are all provided in sterile PBS solution within a concentration range of 0.5 - 3 mg/ml. Saporin is an extremely safe 'toxin' to handle in standard laboratory environments when in solution for several reasons. Solutions in general are easier to corral and keep contained than powders and consequently are less likely to accidentally end up on an individual's skin, tongue, or in one's eyes. As a lyophilized product, Saporin would also be present at an extremely high concentration such that there is cause for concern should it contact the body of the user in any way. Lastly, our Saporin conjugates have historically required dilution prior to use for both *in vitro* and *in vivo* procedures. As such, it is much easier to ensure the amount of material you, as a customer, are receiving and the subsequent dilution is accurately adjusted to your desired concentration when providing these products already in solution. If upon receiving a Saporin conjugate you believe the product to be lyophilized or in a powder form, please contact us immediately, prior to opening the vial.

Q: I'm interested in your anti-DBH-saporin toxin for lesioning central catecholaminergic neurons. I see from the product description that the antibody used is a mouse monoclonal -- designed to specifically target rat DBH. My interest is to produce targeted lesions in mouse transgenic. Will this product still work specifically? Thanks.

A: Unfortunately, we do not have really good data to support the use of our Anti-DBH-SAP (Cat. #IT-03) in mice. There is significant homology between mouse and rat DBH, however the actual antigen for both the mouse monoclonal we use in the immunotoxin and an alternate unpurified rabbit polyclonal, is native bovine DBH enzyme. For further background information there are two references where our product was used in mice. The reference summaries from previous issues of *Targeting Trends* are listed below.

An early sympathetic nervous system influence exacerbates collagen-induced arthritis via CD4+ / CD25+ cells.[1] The sympathetic nervous system can play conflicting roles in collagen-induced arthritis (CIA). CD4+CD25+ T cells can play an immunoregulatory effect in this system depending on the expression of the FoxP3 transcription factor. Mice received 5-µg intraperitoneal injections of anti-DBH-SAP to induce an early sympathectomy. The results indicate that the sympathetic nervous system increases disease severity in CIA by stimulating some of the proinflammatory aspects of CD4+CD25+ T cells.

An opposing time-dependent immune-modulating effect of the sympathetic nervous system conferred by altering the cytokine profile in the local lymph nodes and spleen of mice with type II collagen-induced arthritis.[2] In this work the authors examined the role of the sympathetic nervous system (SNS) in late stages of chronic arthritis. 5 µg intraperitoneal injections of anti-DBH-SAP in mice were used to confirm that previous 6-OHDA injections caused a sympathectomy. The results demonstrate that the SNS supports inflammation during the asymptomatic phase of arthritis, but inhibits inflammation during the chronic symptomatic phase.

1. Harle P, Pongratz G, Albrecht J, Tarner IH, Straub RH *Arthritis Rheum* 58(8):2347-2355, 2008.
2. Harle P, Mobius D, Carr DJ, Scholmerich J, Straub RH *Arthritis Rheum* 52(4):1305-1313, 2005.

Q: Recently we used your flow cytometry services (Cytometry Research, ATS subsidiary). Based on post flow data analysis needs, I am providing the assay group list below (withheld for confidentiality).

A Yes, all these antibodies meet the requirement of being excited by our 488nm laser, however the specific combinations you list use fluorescent probes that have emission wavelengths that are too similar and would actually be detected on the same fluorescent channel. In essence, you would be unable to differentiate which target was being detected.

Here are suggestions for common combinations of commercially available fluorescent probes if you are interested in analyzing three colors simultaneously. All these probes can be excited at 488nm and will work on our equipment, so just make sure you don't have more than one probe from each channel.

FL1 Channel	FL2 Channel	FL-3 Channel
Alexa Fluor 488	Phycoerythrin (PE)	PE/Cy5
DyLight 488	Cy3	PE/Cy5.5
FITC		PerCP
GFP		PerCP/Cy5.5
		PE/Cy7