

# Targeting Talk: Suicide Transport and Immunolesioning

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**Q:** What is immunolesioning?

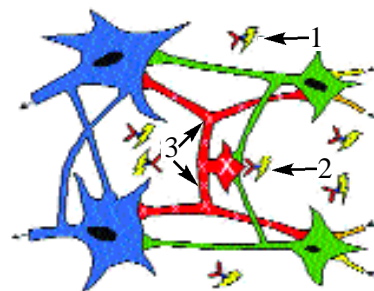
**A:** Immunolesioning is a technique for making highly selective cellular lesions using immunotoxins. The immunotoxins consist of a monoclonal antibody to a cell surface molecule and a toxic effector moiety such as saporin, a ribosome-inactivating protein. The selectivity of the lesion made with this technique depends on the selective expression of the target surface molecule on the cells of interest. Immunotoxins may be applied in a projection field where the toxin is taken up by axon terminals and retrogradely transported to the cell bodies resulting in destruction of an entire neuron. Other routes of application include: directly in vicinity of cell bodies, into CSF, and into culture supernatant.

**Q:** What is suicide transport?

**A:** Suicide transport is an anatomically selective neural lesioning technique that relies on axonal uptake of a toxin that is retrogradely transported to the cell body resulting in destruction of the entire neuron (1). Examples include the toxic lectins [ricin (2), volkensin (3, 4)] and immunotoxins [192-Saporin: Cat. #IT-01 (5), OX7-SAP: Cat. #IT-02 (6, 7), Anti-DBH-SAP: Cat. #IT-03 (8)]. The goal of using this technique is to selectively destroy a group of neurons based on where the corresponding axons project.

**Q:** How do I administer a targeted toxin to achieve suicide transport?

**A:** Generally, precise control of dose and location of injection is important in suicide transport experiments. Consequently, pressure microinjection is the preferred method of toxin delivery. In the peripheral nervous system, subepineurial injection (inside the connective tissue sheath of a peripheral nerve) works well. Within the CNS, stereotactic techniques are typically used to deliver toxin to the desired target.



1. Saporin is conjugated to specific targeting agent.
2. Conjugate is bound to receptor/antigen and internalized.
3. Target cells are eliminated; other cells are left untouched.

## References

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