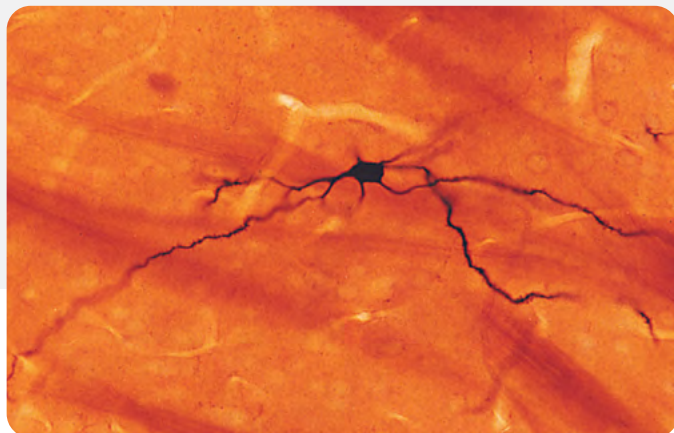
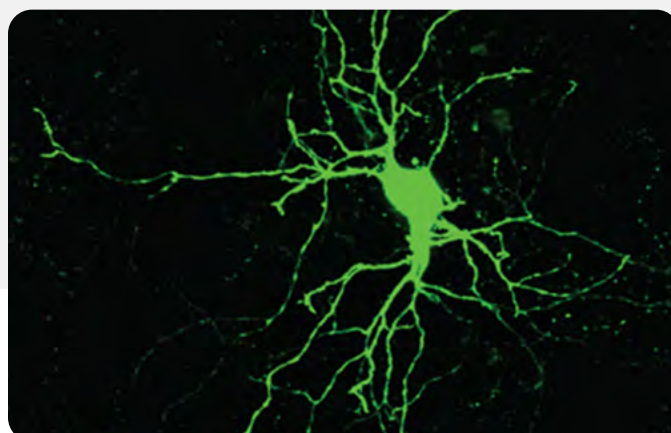


NEUROBIOTIN® Family

Expanded



Intracellular labeling of neurons with NEUROBIOTIN Tracer.



Fast-spiking interneurons of mouse brain striatum filled with NEUROBIOTIN 488. S. Russo, G. et al (2013) *Front. Cell. Neurosci.* Vol. 7, Article 209.

NEUROBIOTIN Tracer

NEUROBIOTIN Tracer manufactured by Vector Laboratories, is a widely recognized and well-referenced intracellular labeling reagent. Primary characteristics that have made this product so popular include high solubility, net positive charge, fixable amine, low molecular weight and subsequent ease of detection with a (strept)avidin enzyme or fluorophore conjugate for visualization and image capture. Recent surveys underscored the need for additional products possessing characteristics like NEUROBIOTIN Tracer with potential further versatility. To address those needs, we have synthesized several new compounds that should help further neural pathway studies:

NEUROBIOTIN 488

This is an amine containing derivative of biotin conjugated with a bright green fluorophore that is readily transported along axons and fine projections. It can be viewed directly via fluorescence and/or detected with a choice of (strept)avidin reagents for light microscopy and archiving of the preparation. It is compatible with patch clamp applications and pressure injection methods. NEUROBIOTIN 488 has a net negative charge.

NEUROBIOTIN 350

Similar in structure to NEUROBIOTIN 488, NEUROBIOTIN 350 is also an amine containing biotin derivative. However, it is conjugated with a bright blue fluorophore that would contrast with other green or red fluorescent markers or reagents present in the same preparation. For administration purposes NEUROBIOTIN 350 has a net positive charge and is highly soluble in a number of commonly used buffer and salt solutions.

NEUROBIOTIN Plus

Investigators have identified rapid degradation of injected tracers such as biocytin due to the presence of biotinidase activity in brain tissue*. This loss of stability of the tracer significantly reduces the viable postinjection period and may compromise complete detection of a neural network. NEUROBIOTIN-Plus was designed to be impervious to cleavage and breakdown by biotinidase. This newly synthesized biotin-containing compound contains fixable amine groups, is highly soluble and has a low molecular weight. These characteristics make it an ideal candidate for experiments requiring long postinjection survival times and optimal uptake along the entire neural tract.

Advantages over biocytin and other neuronal labels:

- ✓ Better solubility
- ✓ More efficiently iontophoresed
- ✓ Remains in cell longer
- ✓ Non-toxic
- ✓ Can be fixed with formalin or glutaraldehyde

Product	Cat. No.
NEUROBIOTIN® Tracer	SP-1120
NEUROBIOTIN® 488 Tracer	SP-1125
NEUROBIOTIN® 350 Tracer	SP-1155
NEUROBIOTIN® Plus Tracer	SP-1150

*Mishra, A. et al (2010) *ACS Chem. Neurosci.* 1:129-138.