

Home > Optotracer Science > Amytracker > Protocols

Amytracker for systemic injection

Amytracker can be used for intravenous- or intraperitoneal injection in small animals to label protein aggregates *in vivo*. It will readily cross the blood brain barrier and can be imaged by intra-vital microscopy or after removing the tissue and preparation of microscope slides. For systemic injection, we recommend to use our **Amytracker - Solid** formulation that comes in sterile injection bottles.

Solutions and Reagents:

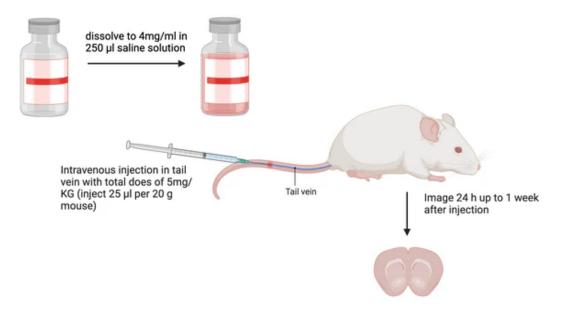
- Amytracker Solid 1mg
- Physiological saline
- Injection syringes and needles

Assay Procedure:

- Add 250 μl physiological saline to the **Amytracker 1mg Solid** by injecting it directly through the rubber stopper. Dissolve all powder residues by shaking or vortexing the bottle.
- Inject a total dose of 5mg/KG of Amytracker intravenously or intraperitoneally.
- You can expect to see staining of cerebral plaques 24-h up to 1 week after injection.

Readout

• For multiphoton microscopty, all Amytracker variants can be excited with a tuneable laser at 800 nm. See the table below for excitation and emission properties of all Amytracker variants with standard microscopy methods.



Multi-Laser / Multi-Detector Imaging with Amytracker

Amytracker are optotracers with structure-dependent photo-physical properties. All Amytracker variants are designed to bind to the Congo red binding pocket on the amyloid fibril and require a theoretical minimum of eight in-register parallel-β-strands for binding. Therefore, Amytracker reliably labels amyloids derived from a variety of amyloidogenic proteins or peptides from different species. Due to their structure-dependent photo physical properties, the Amytracker variants are only fluorescent when binding to a target and different targets can produce a difference in the molecules fluorescence spectrum. To investigate different targets, we recommend to perform imaging by exciting the sample with different wavelengths collecting fluorescence intensity in multiple emission ranges (see the table below for reference). Excitation- and emission spectra for all Amytracker variants can be accessed here.

Table: Multi-laser / Multi-detector imaging protocol performed on a Zeiss LSM800 CLSM.

Channel	Excitation	Emission range	Amytracker variant
CH1	405 nm	400-490 nm	Amytracker 480 Amytracker 680
CH2	405 nm	490-600 nm	Amytracker 480 Amytracker 680
СНЗ	405 nm	600-660 nm	Amytracker 480 Amytracker 680
CH4	405 nm	660-700 nm	Amytracker 480 Amytracker 680
CH5	488 nm	500-580 nm	Amytracker 520 Amytracker 540 Amytracker 630
CH6	488 nm	580-650 nm	Amytracker 520 Amytracker 540 Amytracker 630
СН7	488 nm	650-700 nm	Amytracker 520 Amytracker 540 Amytracker 630
CH8	561 nm	600-650 nm	Amytracker 630 Amytracker 680
СН9	561 nm	650-700 nm	Amytracker 630 Amytracker 680
CH10	Brightfield		

