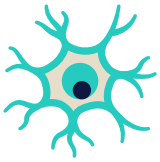
Fluorescence Imaging for Brain Delivery Validation

ATLANTIS BIOSCIENCE
Discovering Solutions

- Did the therapy reach its target?
- How many cells were transduced?
- Is it restoring function?

Fluorescence Imaging turns guesswork into quantitative validation

1.Mapping Brain Circuits



- Neuronal tracing reveals connectivity.
- **Retrograde tracers** show input origins.
- **Anterograde tracers** map outputs.
- Tools: CTB, WGA, dextran amines.

2. Confirming Delivery & Expression

- Use **reporter genes (e.g., GFP)** + brain tissue immunofluorescence.
- **Fluorescent antibodies & SdAbs** → deeper penetration, consistency, low background.
- Provides clear evidence of successful transduction & cell-type specificity.

3. Functional Imaging at the Cellular Level

- **Membrane Potential Dyes** → detect real-time neuronal activity.
- **Styryl Dyes** → visualise synaptic vesicle recycling & neurotransmission.
- Demonstrates functional restoration (e.g., epilepsy models).

Iterative Feedback Loop

- Imaging guides optimisation:
  - If activity unchanged → adjust payload.
  - If off-target → refine vector tropism.
- Ensures delivery = proven functional results.