

Fluoro-Jade B (FJB) Powder for identifying Degenerating Neurons

Catalogue No.: TR-150-FJB

Description: The causes and effects of neuronal degeneration are of major interest to a wide variety of neuroscientists. Paralleling this growing interest is an increasing number of methods applicable to the detection of neuronal degeneration. The fluorescent dye Fluoro-Jade® B (FJB), like its more purified brother Fluoro-Jade® C (FJC), is an anionic fluorescein derivative useful for the histological staining of neurons undergoing degeneration. Fluoro-Jade® B differs from FJC in that it is a slightly less refined chemical formulation and thus it does not quite provide the same level of signal to noise or high resolution as FJC. Nonetheless FJB is still widely used and works very well as a marker of degenerating neurons and even glia (see Damjanac M et al., Brain Res. 2007;1128(1):40-9). FJB operates nearly identically in protocol to that of FJC, and Fluoro-Jade® B is compatible with several other labeling procedures including immunofluorescent and fluorescent Nissl techniques. Fluoro-Jade B stains all degenerating neurons regardless of specific insult or mechanism of cell death. Fluoro-Jade B exhibits the greatest signal to background ratio, as well as the highest resolution. This translates to a stain of maximal contrast and affinity for degenerating neurons. This makes it ideal for localising not only degenerating nerve cell bodies but also distal dendrites, axons and terminals. The dye is highly resistant to fading and is compatible with virtually all histological processing and staining protocols.

Note: This product is equivalent to discontinued product AG310 from Merck-Millipore.

Related products: Fluoro-Jade C (FJC) Ready-to-Dilute Staining Kit for identifying Degenerating Neurons

Fluoro-Jade C (FJC) Ready-to-Dilute Staining Kit for identifying Degenerating Neurons (Trial size)

Fluoro-Jade C (FJC) Powder for identifying Degenerating Neurons

Unit size: 30 mg

Applications: Following our detailed protocol, Fluoro-Jade B labels degenerating neurons which are visualised with blue light excitation, while DAPI (not included) counter stains cell nuclei, visualised with ultra-violet illumination. The Fluoro-Jade B dye can be used on all kinds of preserved tissues, including fresh-frozen, paraformaldehyde or formalin fixed, and formalin fixed, paraffin-embedded tissues.

Comments: MATERIALS PROVIDED

30 mg Fluoro-Jade B, dry powder
Detailed protocol

EQUIPMENT AND REAGENTS NEEDED

FOR RESEARCH USE ONLY

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- Specificity:** Degenerating neurons, and neuronal degeneration. There is no specific staining in normal healthy brain.
- Cross-reactivity:** Some researchers under some conditions report blood vessel staining with Fluoro Jade. This may be because Fluoro Jade is an analogue of eosin (which stains blood cells). In general, good perfusion and preparation of the tissue should help prevent blood vessel staining but it may not be possible to eliminate it entirely. In our experience it is generally possible to distinguish neuronal from blood vessels staining by eye.
- Form:** Dry powder.
- Appearance:** FJB visualization is accomplished using blue light or a 488 nm Laser.
Excitation Peak: 495 nm
Emission Peak: 521 nm
Filter system for visualizing: Fluorescein/FITC
- Reconstitution:** Dissolve Fluoro-Jade® B powder in distilled water (10 mg powder per in 100 mL water) to prepare a 0.01% stock solution, filter through a 0.45 µm membrane and store at 4C in the dark for up to 3 months. Discard if cloudy or precipitated. We recommend using aseptic techniques when handling the reagent to avoid bacterial growth and contamination.
- Storage:** The powdered dye can be stored desiccated at room temperature in the dark. Storage in a desiccator is recommended as FJB is hygroscopic. The 0.01% stock solution will remain stable for 3 months when stored in a refrigerator, in the dark. The 0.0001-0.0004% working solution in 0.1% acetic acid should be used within 4 hours of preparation. Diluted FJB dye solutions are not stable and should not be stored. The other diluted solutions can be reused and stored for up to 48 hours if refrigerated and protected from light. Best results require freshly diluted solutions.
- Expiry Date:** The TR-150-FJB material is shipped ambient and stable at room temperature during transport. The dry powder is stable for 12 months at room temperature if stored as recommended. The 0.1% stock solution can be stored at 2-8C for up to 3 months if handled aseptically. The 0.0001-0.0004% working solution should be used within 4 hours of preparation.
- Reagent Kit protocol:** Please refer to our online product listing for current protocol/MSDS versions.

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