

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

**Catalogue No.:** TR-160-FJC

**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. Fluoro-Jade C stains all degenerating neurons regardless of specific insult or mechanism of cell death. Fluoro-Jade C 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 AG325 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 B (FJB) Powder for identifying Degenerating Neurons

**Unit size:** 30 mg

**Applications:** Following our detailed protocol, Fluoro-Jade C 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 C 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 C, dry powder  
Detailed protocol

EQUIPMENT AND REAGENTS NEEDED

**Specificity:** Degenerating neurons, and neuronal degeneration. There is no specific staining in normal healthy brain.

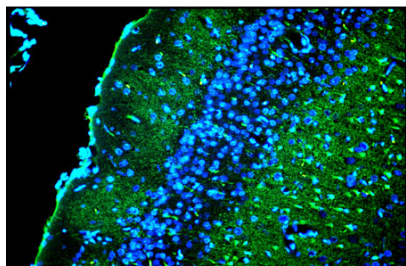
**Cross-reactivity:** Some researchers under some conditions report blood vessel staining with Fluoro Jade. This may be because Fluoro Jade is an analogue of eosin (which stains blood cells). In general, good perfusion and preparation of the tissue should help prevent blood vessel staining but it may not be possible to eliminate it entirely. In our experience it is generally possible to distinguish neuronal from blood vessels staining by eye.

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FOR RESEARCH USE ONLY

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

- Form:** Dry powder.
- Appearance:** FJC 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® C 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 FJC 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 FJC 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.
- The TR-160-FJC material is shipped ambient and stable at room temperature during transport.
- Expiry Date:** 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.



Double exposure using combined blue and ultraviolet epi-fluorescent illumination of the superficial layers of the cingulate rat cortex exposed to kainic acid. Layer I contains conspicuous Fluoro-Jade C positive degenerating axon terminals. Layer II contains densely packed DAPI-positive viable granule cells. Layer III contains a mixture of Fluoro-Jade C positive degenerating pyramidal cells and DAPI-positive viable pyramidal cells. Photo is courtesy of Dr. Larry Schmued.

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