Store at 4°C

X-34

#74193

5 mg

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Description: X-34 is a lipophilic and highly fluorescent marker used to examine pathological changes in Alzheimer's disease (AD). This cellular dye was developed as a derivative of Congo red to be more compatible with *in vivo* applications. By replacing the azo groups (nitrogen-to-nitrogen double bonds) in Congo red with carbon-to-carbon double bonds and having more lipophilic salicylic acid groups, X-34 has proven to be highly fluorescent and have increased membrane permeability. X-34 detects β-sheet structures and labels amyloid plaques, neurofibrillary tangles (NFTs), neuropil threads, and vascular amyloid in AD brains (1).

Molecular Formula: $C_{24}H_{18}O_6$

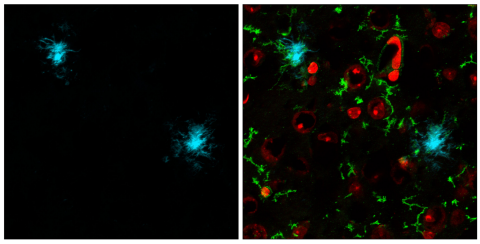
Molecular Weight: 402.4 g/mol

Purity: ≥ 90%

CAS: 215294-98-7

Solubility: Soluble in DMSO at 2 mg/mL.

Excitation/Emission Max: 367/497 nm



Confocal analysis of cortex from the 5XFAD mouse model of Alzheimer's disease, labeled with X-34 (left, cyan) and co-labeled with TMEM119 (E4B9S) Mouse mAb #98778 (right, green) and DRAQ5 #4084 (right, red).

Storage: Store lyophilized at 4ºC, desiccated. In lyophilized form, the product is stable for 12 months.

Please visit cellsignal.com for validation data and a complete listing of recommended companion products.

Directions for Use:

Supplied Reagents:

1. X-34: Create a 5 mM stock solution of X-34 (200X) using the X-34 diluent. Create a 25 µM staining solution by further diluting the 5 mM stock solution using the X-34 diluent.

Note: X-34 diluent (40% EtOH, pH 10) is the recommended solvent for staining. A slight precipitate may be present, but will not interfere with the product's performance.

Additional Reagants (Not Supplied)

1. X-34 diluent (40% EtOH, pH 10): Combine 20 mL of EtOH in 29.5 mL of dH_2O. Add 1 µL of 5M NaOH dropwise until the solution reaches pH 10. Bring the final volume of X-34 diluent to 50 mL with dH_2O.

2. Differentiation buffer: 50 mM NaOH, 80% EtOH

Protocol:

1. Stain slides in 25 µM X-34 staining solution for 30 min at room temperature in the dark.

2. Rinse slides three times in dH_2O.

3. Incubate for 2 min in the differentiation buffer.

4. Rinse slides three times in dH_2O.

5. If desired, proceed with immunostaining.

6. Mount and image.

Background References:

(1) Styren, S.D. et al. (2000) *J Histochem Cytochem* 48, 1223-32.

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Applications: W—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **FC-FP**— Flow cytometry-Fixed/Permeabilized **FC-L**— Flow cytometry-Live **E-P**—ELISA-Peptide
Species Cross-Reactivity: H—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **Ce**—C. elegans **Hr**—Horse
All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.