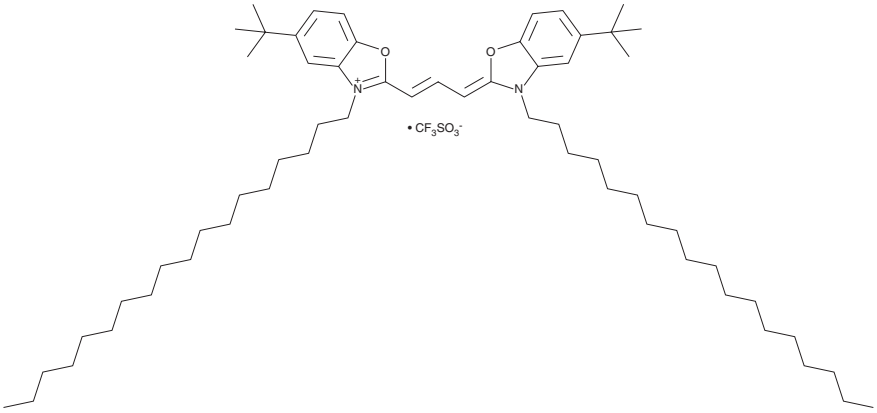
PRODUCT INFORMATION

Neuro-DiO

Item No. 45054



CAS Registry No.: 938222-76-5
Formal Name: 5-(1,1-dimethylethyl)-2-[3-[5-(1,1-dimethylethyl)-3-octadecyl-2(3H)-benzoxazolylidene]-1-propen-1-yl]-3-octadecyl-benzoxazolium
MF: $C_{61}H_{101}N_2O_2 \bullet CF_3O_3S$
FW: 1043.6
Purity: ≥90%
Ex./Em. Max: 483/501 nm
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years
Specical Conditions: Light sensitive

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Neuro-DiO is supplied as a solid. A stock solution may be made by dissolving the Neuro-DiO in the solvent of choice, which should be purged with an inert gas. Neuro-DiO is soluble in DMSO.

Description

Neuro-DiO is a lipophilic carbocyanine probe for neuronal membrane labeling and tracing. It can be used in fixed tissue or in live tissue for acute or longitudinal studies. Neuro-DiO displays excitation/emission maxima of 483/501 nm, respectively. Upon membrane incorporation, neuro-DiO diffuses across the cell surface, enabling the analysis of neuronal morphology, including dendritic arborization and axonal projections, and can be used for both retrograde and anterograde labeling. Neuro-DiO can be used alone or in conjunction with additional probes for multi-labeling applications and in flow cytometric analysis.

Assay Protocol

NOTE: The following is a recommended protocol and only provides a guideline. It should be modified according to specific lab needs.

1. **Prepare membrane-staining solution**
   a. Dissolve neuro-DiO in DMSO or ethanol to a final concentration of 1-5 mM to make the membrane staining stock solution.
   b. Dilute the membrane staining stock solution in serum-free culture medium or a suitable buffer, such as HBSS or PBS, to make a 1-5 µM dye working solution.

Note 1: Aliquot and store unused neuro-DiO stock solution at <-20° C. Repeated freeze-thaw cycles should be avoided.
Note 2: The final concentration of the working solution is application-specific. Staining conditions may be modified according to cell type and/or experimental conditions. It is recommended to test at concentrations at least over a ten-fold range.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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2. **Prepare and stain the cells**
   a. Adherent cells:
      i. Grow cells on sterile glass coverslips.
      ii. Remove coverslips from growth medium and drain off any excess medium.
      iii. Add 100 µl of the dye working solution prepared in step 1B to the corner of the coverslip and gently agitate until all cells are covered.
      iv. Incubate cells at 37°C, 5% CO_2 for 2-20 minutes.*
      v. Drain off the dye working solution and wash the coverslips 2-3 times with growth medium. For each wash cycle, cover the cells with pre-warmed growth medium, incubate for 5-10 minutes, and then drain off the medium.
      vi. Observe cells using the fluorescence technique of choice.

Note 3: The optimal incubation time varies depending on cell type. It is recommended to start with a 20-minute incubation and optimize as needed to obtain uniform labeling.

   b. Suspension cells:
      i. Suspend cells at a density of 1 x 10^6 per ml in dye working solution.
      ii. Incubate cells at 37°C for 2-20 minutes.*
      iii. Centrifuge the labeled suspension cells at 1,000-1,500 rpm for 5 minutes.
      iv. Remove the supernatant and gently resuspend the cells in pre-warmed growth medium.
      v. Repeat steps iii and iv two more times.
      vi. Observe or analyze the cells using the fluorescence technique of choice.

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