# **PRODUCT** INFORMATION



# 3,3'-Dioctadecyloxacarbocyanine (perchlorate)

Item No. 27876

CAS Registry No.: Formal Name:	34215-57-1 3-octadecyl-2-[3-(3-octadecyl-2(3H)- benzoxazolylidene)-1-propen-1-yl]- benzoxazolium, monoperchlorate	
Synonyms:	DiOC <sub>18</sub> (3), NK 3045	
MF:	$C_{53}H_{85}N_2O_2 \bullet ClO_4$	
FW:	881.7	• CIO <sub>4</sub> -
Purity:	≥95%	
Ex./Em. Max:	484/501 nm	
Supplied as:	A solid	
Storage:	-20°C	
Stability:	≥4 years	$\sim$

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

### Description

3,3'-Dioctadecyloxacarbocyanine is a lipophilic fluorescent dye. It exhibits polarity-dependent fluorescence that is enhanced when incorporated into membranes or lipophilic molecules. Upon membrane incorporation, 3,3'-dioctadecyloxacarbocyanine rapidly diffuses to stain the entire cell membrane.<sup>1</sup> It has been used in the clonal analysis of 5. purparatus embryos. 3,3'-Dioctadecyloxacarbocyanine displays excitation/emission maxima of 484/501 nm, respectively, and can be used for live cell applications.

### Assay Protocol

#### 1 Prepare 3,3'-dioctadecyloxacarbocyanine solution

- a. Reconstitute 3,3'-dioctadecyloxacarbocyanine with DMSO or ethanol to a final concentration of 1-5 mM.
- b. Store 3,3'-dioctadecyloxacarbocyanine stock solution at -20°C, avoiding repeated freeze/thaw cycles.

#### Prepare and stain the cells 2.

#### a. Adherent Cells

- i. Dilute 3,3'-dioctadecyloxacarbocyanine stock solution into serum-free cell culture media, PBS, or Hanks balanced salt solution (HBSS) to a final concentration of  $1-5 \,\mu$ M to prepare 3,3'-dioctadecyloxacarbocyanine working solution.
- ii. Remove culture medium from adherent cells and replace with 3, 3'-dioctadecyloxacarbocyanine working solution.
- iii. Incubate cells at 37°C, 5% CO<sub>2</sub> for 2-20 minutes.
- iv. Centrifuge the labeled suspended cells at 1,000 5,000 rpm for 5 minutes.
- v. Aspirate 3,3'-dioctadecyloxacarbocyanine working solution and wash cells three times with growth medium.
- iv. Observe cells using fluorescence technique of choice.

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

#### SAFFTY 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.

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#### b. Suspended cells

- Dilute 3,3'-dioctadecyloxacarbocyanine stock solution into serum-free cell culture media, PBS, or Hanks balanced salt solution (HBSS) to a final concentration of 1-5 μM to prepare 3,3'-dioctadecyloxacarbocyanine working solution.
- ii. Suspend cells at a density of 1 x  $10^6$  cells/ml in 3,3'-dioctadecyloxacarbocyanine working solution.
- iii. Incubate cells at 37°C, 5%  $CO_2$  for 2-20 minutes.
- iv. Centrifuge the labeled suspended cells at 1,000 5,000 rpm for 5 minutes.
- v. Aspirate 3,3'-dioctadecyloxacarbocyanine working solution and wash cells three times with growth medium.
- iv. Observe cells using fluorescence technique of choice.

#### Reference

1. Volnoukhin, M. and Brandhorst, B.P. Multispectral labeling of embryonic cells with lipophilic carbocyanine dyes. *Mol. Reprod. Dev.* **82(7-8)**, 619-624 (2015).

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