# MM 4-64 [N-(3-Triethylammoniumpropyl)-4-(6-(4-(diethylamino)phenyl)hexatrienyl)pyridinium dibromide]

Catalog number: 21487
Unit size: 1 mg

| Component | Storage | Amount |
|---|---|---|
| MM 4-64 [N-(3-Triethylammoniumpropyl)-4-(6-(4-(diethylamino)phenyl)hexatrienyl)pyridinium dibromide] | Freeze (<-15 °C), Minimize light exposure | 1 mg |

## OVERVIEW

MM 4-64 (FM 4-64) is the abbreviation of our Membrane Marker 4-64, chemically called N-(3-triethylammoniumpropyl)-4-(6-(4-(diethylamino)phenyl)hexatrienyl)pyridinium dibromide. In literature this membrane marker is also called "FM 4-64" (FM® is the trademark of Molecular Probes). It is a lipophilic styryl dye that is used as a vital stain to follow bulk membrane-internalization and transport to the vacuole in yeast. MM 4-64 is a sensitive reporter of vacuolar dynamics, detecting such events as segregation structure formation during mitosis, vacuole fission/fusion events, and vacuolar morphology in different classes of vacuolar protein sorting mutants. It can be used for detecting endosome to vacuole membrane transport in vitro.

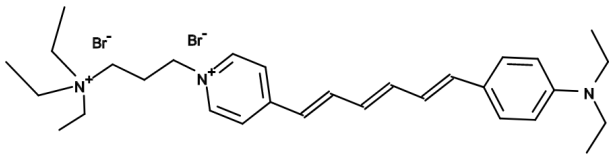


**Figure 1.** Chemical structure for MM 4-64 [N-(3-Triethylammoniumpropyl)-4-(6-(4-(diethylamino)phenyl)hexatrienyl)pyridinium dibromide]

## AT A GLANCE

Important

Expiration is 12 months from date of receiving.

## KEY PARAMETERS

| | |
|---|---|
| Instrument: | Fluorescence microscope |
| Excitation: | 558 nm |
| Emission: | 734 nm |
| Recommended plate: | Black wall/clear bottom |

## SAMPLE EXPERIMENTAL PROTOCOL

1. Make a 1-5 mM stock solution in DMSO.

2. Prepare a working solution of 2-20 uM in ice-cold HHBS without Magnesium and calcium, and keep it on ice.

   ***Note*** It is important to follow the temperature and time guidelines as closely as possible in order to slow down endocytosis and promote selective plasma membrane labeling and imaging. Endocytosis will likely occur within 10 minutes of staining.

   ***Note*** HHBS (Hanks and Hepes Buffer) without magnesium and calcium is suggested for this protocol. The presence of magnesium or calcium speeds up endocytosis of the dye, resulting in poor plasma membrane selectivity.

3. Remove the coverslip from the culture medium and quickly immerse it in the staining solution, on ice, for 1 minute. The plasma membranes will stain quickly.

4. Remove the coverslip from the staining solution. Mount on a microscope slide, seal with paraffin, keep on ice, and image immediately in staining solution without washing.

## EXAMPLE DATA ANALYSIS AND FIGURES

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