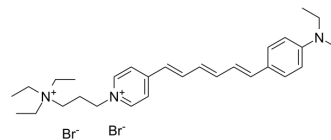


FM4-64

Cat. No.:	HY-103466
CAS No.:	162112-35-8
Molecular Formula:	C ₃₀ H ₄₅ Br ₂ N ₃
Molecular Weight:	607.51
Target:	Others
Pathway:	Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	FM4-64, a membrane-selective red fluorescent dye, belongs to the FM family of styrylpyridinium dyes. FM4-64 is widely used to study endocytosis and exocytosis, vesicle trafficking and organelle organization in living animal ^{[1][2]} .
In Vitro	<p>FM4-64 readily translocates to the nuclear envelope (NE) at physiological temperature where it exhibits enhanced fluorescence when excited at 620-650 nm in contrast to 480-520 nm excitation in the endocytic pathway and in the endoplasmic reticulum (ER). In vitro data indicated that the dye reveals an enrichment of negatively charged lipids, presumably due to local phospholipid synthesis. Dual-excitation imaging of FM4-64 in relation to lamina-associated polypeptide-1-green fluorescent protein during mitosis suggested that the disassembly of NE preserves microscale lipid complexes in the ER^[1].</p> <p>For studies on plant and fungal cells, FM4-64 is usually preferred to FM1-43 due to its superior brightness, greater contrast, higher photostability, and its red-shifted emission facilitating concomitant use with the green fluorescent protein (GFP).^[3] MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

REFERENCES

- [1]. Zal T, et al. Spectral shift of fluorescent dye FM4-64 reveals distinct microenvironment of nuclear envelope in living cells. *Traffic*. 2006;7(12):1607-1613.
- [2]. Stenovec M, et al. Distinct labelling of fusion events in rat lactotrophs by FM 1-43 and FM 4-64 is associated with conformational differences. *Acta Physiol (Oxf)*. 2007;191(1):35-42.
- [3]. Bolte S, et al, Satiat-Jeunemaitre B. FM-dyes as experimental probes for dissecting vesicle trafficking in living plant cells. *J Microsc*. 2004;214(Pt 2):159-173.

Caution: Product has not been fully validated for medical applications. For research use only.