SynaptoGreen™ C4 (Equivalent to FM®1-43)

A widely used green fluorescent dye for following synaptic activity by staining synaptic vesicles at the synapse or neuromuscular junctions. When used in combination with the red fluorescent dye SynaptoRed™ (), synapses or neuromuscular junctions can be imaged independently in two colors.

Product attributes

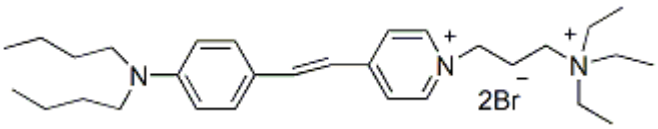
CAS number	149838-22-2
Probe cellular localization	Membrane/vesicular
For live or fixed cells	For live/intact cells
Assay type/options	Real-time imaging
Colors	Green
Excitation/Emission	480/598 nm (in membranes)

Product Description

A widely used green fluorescent dye for following synaptic activity by staining synaptic vesicles at the synapse or neuromuscular junctions. When used in combination with the red fluorescent dye SynaptoRed™ (70021), synapses or neuromuscular junctions can be imaged independently in two colors. Research results from the Tsien and Kay labs showed that brain slices can be stained with SynaptoGreen™ when SR101 (Sulforhodamine 101, 80101) or ADVASEP-7 (70029) is used to reduce the background staining. Biotium offers several Nerve Terminal Staining Kits for staining brain slices. Also see AM1-43 (70024), which is similar to SynaptoGreen™, but with a formaldehyde-fixable amine group.

SynaptoGreen™ also can be used to stain bacteria (gram-positive or gram-negative) and yeast, although in yeast it rapidly internalizes to vacuolar membranes. See our Cellular Stains Table for more information on how our dyes stain various organisms.

- Î»$_{Ex}$/Î»$_{Em}$: 510/625 nm (in MeOH); 480/598 nm (in membranes)
- Red solid soluble in water
- $C_{30}H_{49}Br_2N_3$
- MW: 612



Nerve Terminal Dyes and Kits

Product	Catalog No.	Features
SynaptoGreen™ Dyes (Ex/Em ~480/660 nm in membranes)	70020... 70053	View full list of SynaptoGreen™ Dyes
SynaptoRed Dyes™ (Ex/Em ~510/750 nm in membranes)	70021... 70050	View full list of SynaptoRed™ Dyes
Background Reducers		
ADVASEP-7	70029	Sulfonated cyclodextrin that aids in removal of free dye during washes
SCAS	70037	Quenches extracellular fluorescences with fewer wash steps than ADVASEP-7
Sulforhodamine 101	80101	Red fluorescent dye that quenches extracellular fluorescence of SynaptoGreen™ dyes
Nerve Terminal Staining Kits		
Nerve Terminal Staining Kit I	70030	Includes SynaptoGreen™ C4 and ADVASEP-7
Nerve Terminal Staining Kit II (A)	70031	Includes AM1-43 and ADVASEP-7
Nerve Terminal Staining Kit II (B)	70031-1	Includes AM1-43 and SCAS
Nerve Terminal Staining Kit III	70032	Includes SynaptoGreen™ C4 and Sulforhodamine 101
Nerve Terminal Staining Kit V	70034	Includes SynaptoRed™ C2 and ADVASEP-7

m is the number of carbons in the lipophilic tail and n is the number of double bonds linking the two aromatic rings in the dye.
**The positively-charged end of SynaptoRed C2M is a trimethylammonium group.FM is a registered trademark of Thermo Fisher Scientific.