

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



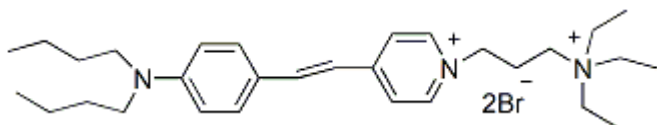
A widely used green fluorescent dye for following synaptic activity by staining synaptic vesicles at the synapse or neuromuscular junctions. When used in combination with the red fluorescent dye SynaptoRed™ ([70021](#)), synapses or neuromuscular junctions can be imaged independently in two colors.

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.

- $\lambda_{exc}/\lambda_{em}$: 510/625 nm (in MeOH); 480/598 nm (in membranes)
- Red solid soluble in water
- $C_{30}H_{49}Br_2N_3$
- MW: 612



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) |

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.

This datasheet was generated on June 4, 2026 at 12:53:36 PM. Visit product page to check for updated information before use.

Product link: <https://biotium.com/product/synaptogreentm-c4-also-known-as-fm1-43-a-trademark-of-molecular-probes-inc/>