Glowing products for science

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 SynaptoRedTM (), synapses or neuromuscular junctions can be imaged independently in two colors.

Biotlum

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)

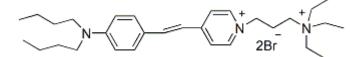
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Product Description

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 SynaptoRedTM (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 SynaptoGreenTM 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 SynaptoGreenTM, but with a formaldehyde-fixable amine group.

SynaptoGreenTM 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 <u>Cellular Stains Table</u> for more information on how our dyes stain various organisms.

- λEx/λEm: 510/625 nm (in MeOH); 480/598 nm (in membranes)
- Red solid soluble in water
- C₃₀H₄₉Br₂N₃
- MW: 612



Nerve Terminal Dyes and Kits

Catalog No.

Product

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
<u>SCAS</u>	70037	Quenches extracellular fluorescences with fewer wash steps than ADVASEP-7
Sulforhodamine 101	<u>80101</u>	Red fluorescent dye that quenches extracellular fluorescence of SynaptoGreen TM 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)	<u>70031-1</u>	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

Features

This datasheet was generated on November 17, 2025 at 11:04:48 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/

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.