

Instruction Manual

Catalog Number	PK-CA707-70034
Description	The Nerve Terminal Green and Red Staining Kits have been designed to detect and study recycling of the synaptic vesicles in neuronal synapses and neuromuscular junctions. Although each kit uses a different amphiphilic styryl pyridinium dye to visualize the vesicles, preparation of the tissue, the required reagents and the staining procedures are identical for each. The dyes included in the kits fluoresce intensely inside plasma membranes but only minimally in aqueous environments. When neurons are actively releasing neurotransmitters, dye is incorporated into recycled vesicles at the presynaptic terminal. The dye-containing vesicles are not susceptible to subsequent wash steps that remove the excess dye from the outer leaflet of the plasma membrane. Thus, only active presynaptic terminals are labeled. ADVASEP-7 further reduces background by encapsulating the probes, preventing stain from accumulating interstitially.
Quantity	1 set (5x1 mg SynaptoRed C2 and 250 mg ADVASEP-7)
SynapseRed C2	
Description	A widely used red fluorescent dye for following synaptic activities by staining synaptic vesicles at the synapse or neuromuscular junctions. When used in combination with the green fluorescent dye SynapseGreen (PK-CA707-70020), synapses or neuromuscular junctions can be imaged independently in two colors. SynapseRed has also been used to study endocytosis in Dictyostelia.
Molecular Formula	$C_{30}H_{45}Br_2N_3$
Molecular Weight	608 g/mol
Appearance	Dark purple solid
Purity	≥95% (determined by HPLC)
Solubility	Soluble in water
References	<ol style="list-style-type: none"> 1. J. Neurosci. 12, 363(1992) 2. Science. 255, 200(1992) 3. J. Cell Biol. 121, 1311(1993)
Intended Use	For in vitro research use only. Not for diagnostic or therapeutic procedures.
Storage	Store desiccated at 4°C.

ADVASEP-7	
Description	ADVASEP-7 is a sulfonated β -cyclodextrin derivative that has been reported to reduce background fluorescence when using SynapseGreen C4 (also called FM1-43; PK-CA707-70020) to stain brain slices.
Molecular Formula	$C_{42}H_{70-n}O_{35}(C_4H_6SO_3Na)_n$, avg. $n = 6.5$
Molecular Weight	~2163 g/mol
Appearance	White solid
Purity	>96% (determined by TLC)
Solubility	Soluble in water
References	Kay, A. R., A. Alfonso, et al. "Imaging synaptic activity in intact brain and slices with FM1-43 in <i>C. elegans</i> , Lamprey and Rat." <i>Neuron</i> 24: 809-817 (1999).
Intended Use	For in vitro research use only. Not for diagnostic or therapeutic procedures.
Storage	Store desiccated at 4°C.

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