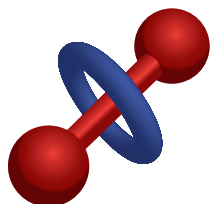


SETA Squaraine Rotaxane Dyes



This new class of proprietary dyes was developed by SETA BioMedicals to overcome some of the shortcomings of conventional dyes. SeTau squaraine rotaxane dyes combine many desirable properties of fluorescent reporters:



Squaraine-Rotaxanes

- High quantum yields (up to 65%) in water
- High extinction coefficients up to 250,000 M⁻¹cm⁻¹
- Fluorescent lifetimes of several ns
- High chemical and photostability
- Images stained with SeTau dyes are stable for hundreds of hours^[1]

SeTau dyes are available in reactive form with carboxy, NHS ester and maleimide functionalities for covalent attachment to biomolecules to target specific cellular locations for in vitro and in vivo optical imaging but also as probes for imaging and superresolution microscopy.

The squaraine rotaxane dye SeTau-647 is currently the brightest label on the market for the Kr-ion (647 nm) laser line.

SeTau Dyes for Fluorescence Lifetime and Polarization Applications

The longer lifetimes (in the order of 2 - 4 ns, see below) and larger Stokes' shifts (40 - 50 nm) of squaraine rotaxanes compared to conventional cyanine based NIR labels ($\tau = 0.5 - 1.5$ ns) make them in particular suitable as labels for use in fluorescence polarization immunoassays.

SeTau Imaging Probes

SeTau rotaxane probes exhibit extremely high chemical and photostability and are therefore well suited for imaging applications. They also have very high 2-photon action cross sections in the order of several thousand GE.

Product Number	Product Name	Target Group	Medium	λ_{abs} [nm]	ϵ [M ⁻¹ . cm ⁻¹]	λ_{em} [nm]	QY [%]	FLT [nm]
K9-4142	SeTau-647-di-NHS	NH ₂	PB 7.4	650	200000	694	65	3.2
K9-4145	SeTau-633-Ethyl-Ester		CHCl ₃	634	88000	683	68	3.2
K9-4148	SeTau-647-Maleimide	SH	PB 7.4	648	200000	692	45	3.2
K9-4149	SeTau-647-NHS	NH ₂	PB 7.4	649	200000	695	61	3.2
K9-4150	SeTau-647		PB 7.4	647	211000	693	59	3.1

[1] Smith B.D. et al. Angew. Chem. 2007, 119, 5624 – 5627.



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Fluorescent Tools for BioMedical Applications

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