

Fluorophore Selection Guide for PCR & Nick Translation Labeling Kits

Table 1 Spectral properties of selected fluorescent dyes. ++: good, +: moderate, -: poor.

Please note: The choice of fluorophore not only depends on the available excitation source or filter sets but also on the final application. It is a compromise between hydrophilicity and photostability that determine enzymatic label incorporation efficiency and detection sensitivity, respectively. Good photostability: Increased sensitivity thus improved detection limits; Good hydrophilicity: Increased incorporation efficiency of labeled dUTP.

^[1]free acid * AF = Alexa Fluor

Emission colour	Dye	Exc _{max} [nm] ^[1]	Em _{max} [nm] ^[1]	ε _{max} [L x mmol ⁻¹ cm ⁻¹] ^[1]	Substitute for	Hydrophilicity	Photostability
Blue	ATTO425	436	484	45.0	DEAC	+	++ (> DEAC)
Green	Fluorescein	492	517	83.0		++	-
	ATTO488	501	523	90.0	Fluorescein, Rhodamine, Alexa Fluor 488, Cy2	++	++ (>fluorescein, rhodamine, Cy2)
	AF*488	494	515	73.0	Fluorescein, Rhodamine, ATTO488, Cy2	++	++ (>fluorescein, rhodamine, Cy2)
Yellow	Cy3	550	570	150.0		++	+
	ATTO550	554	576	120.0	Cy3	-	++ (> Cy3)
	AF*555	555	572	155.0	Cy3, ATTO550	++	++ (> Cy3)
Orange	Texas Red	588	609	80.0	Cy3.5	+	+
	AF*594	590	617	92.0	Texas Red	++	++
Red	ATTO647N	644	669	150.0	Cy5, Alexa Fluor 647	-	++ (> Cy5)
	AF*647	648	671	270.0	Cy5, ATTO647N	++	++ (> Cy5)
	Cy5	649	670	250.0		++	-