

# Fluorophore - Reactive group selection chart

Fluorophore:	$R^1$ \ $R^2$	Reactive group:		NHS esters	Azides	Alkynes	Cycloalkynes	Tetrazines	Hydrazides	Amines	Maleimides	Phosphoramidites	Carboxylic acids
		Abs. max. (nm)	Target: Em. max. (nm)	Primary amine (peptides, proteins, amino-labeled DNA)	Ethynyl group, cycloalkynes (click chemistry)	Azide (click chemistry)	Azide (copper-free click chemistry)	Strained dienophile (trans-cyclooctene, cyclopropene), alkenes	Carbonyl group (aldehydes, ketones)	Electrophilic reagents (like activated esters)	Sulfhydryl group (peptides, proteins)	DNA (oligo synthesis)	Various (Steglich esterification)
		<b>Pyrene</b>	242	377	63520	+2530 +1530 +3530	+1580				+3570		+3580
<b>PEP (Phenylethynyl-pyrene)</b>	362 384	389		+4530									
<b>Perylene</b>	410 434	436 465		+5530	+5580								
<b>AMCA</b>	345	450	3606•	3605•									3357•
<b>AF 343 (Coumarin)</b>	437	477	+2620	+1630 +2630									+2690
<b>BDP FL</b>	503	509	+1420	+1430	+1480	+14F0	+14E0	+1470	+14C0	+1480			+1490
<b>AF 488</b>	495	519	+1820	+1830	+1880	+18F0			+18C0	+1880			+1890
<b>FAM (Fluorescein)</b>	494	520	+5120	+5130 +4130	+5180 +4180	+51F0	+41E0 +51E0	+4170 +5170	+41C0 +51C0	+4180		2639• 2950• +3460 +5160	
<b>TET (Tetrachlorofluorescein)</b>	519	535		+8230								+8160	
<b>AF 430</b>	430	542	+0820	+0830	+0880		+08E0	+0870	+08C0	+0880			+0890
<b>VIC</b>	526	543		+H230								+H260	
<b>R6G</b>	519	546	+4220	+4430	+5280							+5260	
<b>BDP R6G</b>	527	547	+4420	1476•	+4480	+44F0	+44E0	+4470	+44C0	+4480			+4490
<b>HEX (Hexachlorofluorescein)</b>	533	549	28220	+8230								+8260	
<b>JOE</b>	533	554	+1120	+1130	+2180							+2160 +1160	
<b>AF 532</b>	532	554	+C820										+C890
<b>SIMA (Dichloro-diphenyl-fluorescein)</b>	531	555		+E230								+E260 2950• +3360	
<b>sulfo-Cyanine3</b>	548	563	+1320	+1330	+1380	+13F0	+13E0	+1370	+13C0	+1380			+1390
<b>TAMRA (TMR, Tetramethylrhodamine)</b>	556	563	+8120 +7120	+7130 +8130	+7180 +8180	+71F0		+8170	+71C0	+8180 +7180		2318• 2497•	+7190
<b>AF 555</b>	552	566	+K820	+K830									+K890
<b>BDP 558/568</b>	561	569	+7420	+7430	+7480	+74F0	+74E0	+7470	+74C0	+7480			+7490
<b>Cyanine3</b>	555	570	+1020 +8041	+1030	+1080	3269• +10F0	+10E0	+1070	+10C0	+1080		2771•	+1090
<b>Cyanine3B</b>	559	571	+9320	+9330					+93C0	+9380			2321•
<b>BDP TMR</b>	542	574	+F420 +2420	+2430	+2480	+24F0	+24E0		+24C0	+2480			+2490
<b>BDP 564/570</b>	565	574	+H420										+H490
<b>ROX (Rhodamine X, Rhodamine 101)</b>	570	591	+2220 +1220	+1230 +2230	+1280 +2280	+12F0	+12E0		+22C0	+1280			
<b>ATT 565</b>	563	592		+A930									
<b>BDP 576/589</b>	580	592	+G420				+G4E0						+G490
<b>BDP 581/591</b>	585	594	+6420	+6430	+6480	+64F0	+64E0	+6470	+64C0	+6480			+6490
<b>AF 568</b>	572	598	+4820	+5820	+4880	+158F0							+5890
<b>sulfo-Cyanine3.5</b>	576	603	+2320	+2330	+2380				+23C0				+2390
<b>Cyanine3.5</b>	591	604	+2020	+2030		+20F0							+2090
<b>AF 594</b>	586	613	+2825	+7830									+4890
<b>TR (Texas Red)</b>	596	615	+V220	+Y230									
<b>BDP TR</b>	589	616	+3420 +D420	+3430	+3480	+D4F0	+34E0	+3470	+34C0	+3480			+3490
<b>ATT 594</b>	601	627		+8930									
<b>BDP 630/650</b>	628	642	+5420	+5430	+5480		+54E0	+5470	+54C0	+5480			+5490

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Fluorophore:	R <sup>1</sup> \ R <sup>2</sup>	Reactive group:		NHS esters Primary amine (peptides, proteins, amino-labeled DNA)	Azides Ethynyl group, cycloalkynes (click chemistry)	Alkynes Azide (click chemistry)	Cycloalkynes Azide (copper-free click chemistry)	Tetrazines Strained dienophile (trans-cyclooctene, cyclopropene), alkenes	Hydrazides Carbonyl group (aldehydes, ketones)	Amines Electrophilic reagents (like activated esters)	Maleimides Sulfhydryl group (peptides, proteins)	Phosphoramidites DNA (oligo synthesis)	Carboxylic acids Various (Steglich esterification)
		Abs. max. (nm)	Em. max. (nm)										
<b>sulfo-Cyanine5</b>		646	662	•1058 •3320 •3300	•3330	•3380 1058•	•33F0	•33E0	•3370	•33C0	•3380		•3390
<b>Cyanine5</b>		646	662	•C041 •3020	•0	•30B0	•30F0	•30E0	•3070	•30C0	•3080	1740•	•3090
<b>BDP 650/665</b>		646	662	•E420	•8430	•84B0	•E4F0				•8480		
<b>AF 647</b>		650	671	•6820	•6830								•6890
<b>sulfo-Cyanine5.5</b>		673	691	•7320	•7330	•73B0	•73F0	•73E0		•73C0	•7380		•7390
<b>Cyanine5.5</b>		684	710	•7020	•4030	•70B0	•70F0	•70E0	•7070	•70C0	•7080	2680•	•7090
<b>sulfo-Cyanine7</b>		750	773	•53D0 •5320	•5330	•53B0	•53F0	•53E0		•53C0	•5380		•5390 1497•
<b>Cyanine7</b>		750	773	•5020	•5030	•50B0	•50F0	•50E0	•5070	•50C0	•5080		•5090 1512•
<b>sulfo-Cyanine7.5</b>		778	797	•6320	•6330	•63B0				•63C0	•6380		•6390 1382•
<b>Cyanine7.5</b>		788	808	•6020	•6030	•60B0		•60E0	•6070	•60C0	•6080		•6090

• The dot represents the part of the product number which indicates the package size.



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專業總代理 02-2668-6845



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**Lumiprobe Corporation**  
(US and Worldwide)  
9:00AM - 9:00PM EST  
201 International Circle, Suite 135  
Hunt Valley, Maryland 21030, USA  
Phone: +1 888 973 63 53  
Fax: +1 888 973 6354  
Email: [order@lumiprobe.com](mailto:order@lumiprobe.com)

**Lumiprobe GmbH**  
(Germany and Europe)  
9:00AM - 5:00PM CEST  
Feodor-Lynen-Strasse 23  
30625 Hannover, Germany  
Phone: +49 (0)511 16596811  
Fax: +49 (0)511 16596815  
Email: [de@lumiprobe.com](mailto:de@lumiprobe.com)

**Lumiprobe RUS Ltd**  
(Russia and CIS)  
9:00 - 18:00 GMT +3 (Moscow)  
Kotsyubinskogo 4, bld. 3  
121351 Moscow, Russian Federation  
Phone: +7 800 775 3271  
Email: [ru@lumiprobe.com](mailto:ru@lumiprobe.com)