CY$_{anine}$ Fluorophores

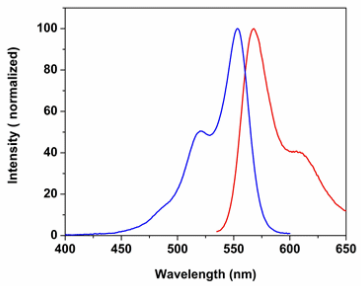
● CY$_{anine}$ dyes key information (fluorescence)

CY$_{anine}$2 dye

Cy2 derivates:
$_{Max}\lambda_{Abs.Em.}$: 490 / 510nm
EC: 150 000 $M^{-1}cm^{-1}$
QY: 0.12

See description and available derivatives

CY$_{anine}$3 dye



Cy3 derivates:
$_{Max}\lambda_{Abs.Em.}$: 555 / 570nm
EC: 150 000 $M^{-1}cm^{-1}$
QY: 0.31

See description and available derivatives

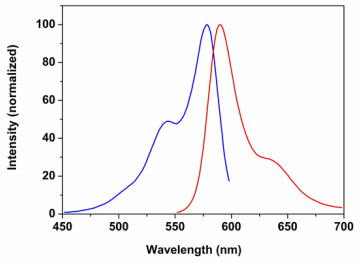
Flow cytometry laser line: 532 or 555 nm
Microscopy laser line: 532 or 555 nm

DiSulfoCy3 derivates:
$_{Max}\lambda_{Abs.Em.}$: 548 / 563nm
EC: 162 000 $M^{-1}cm^{-1}$
QY: 0.15
CF_{260}: 0.03 CF_{280}: 0.06

MonoSulfoCy3 derivates:
Max λ Abs.Em.: 548 / 567nm
EC: 162 000 $M^{-1}cm^{-1}$
QY: 0.15

See available derivatives

CY$_{anine}$3.5 dye



Cy3.5 derivates:
$_{Max}\lambda_{Abs.Em.}$: 591 / 604nm
EC: 116 000 $M^{-1}cm^{-1}$
QY: 0.35

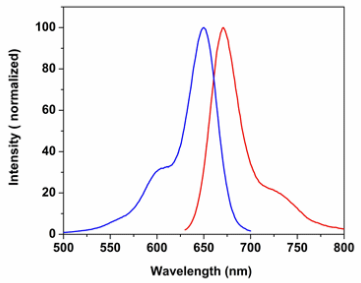
See description and available derivatives

DiSulfoCy3.5 derivates:
$_{Max}\lambda_{Abs.Em.}$: 591 / 604bm
EC: 116 000 $M^{-1}cm^{-1}$
QY: 0.35

TetraSulfoCy3.5 derivates
Max λ Abs.Em.: 581 / 596nm

See available derivatives

CY$_{anine}$5 dye



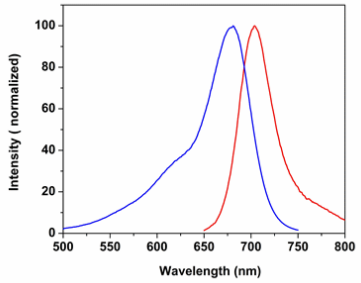
Cy5 derivates:
$_{Max}\lambda$ Abs.Em.: 646 / 662nm
EC: 250 000 $M^{-1}cm^{-1}$
QY: 0.28

See description and available derivatives

DiSulfoCy5 derivates:
$_{Max}\lambda$ Abs.Em.: 646 / 662nm
EC: 271 000 $M^{-1}cm^{-1}$
QY: 0.2
CF_{260}: 0.13 CF_{280}: 0.13

See available derivatives

CY$_{anine}$5.5 dye



Cy5.5 derivates:
$_{Max}\lambda_{Abs.Em.}$: 673 / 707nm
EC: 209 000 $M^{-1}cm^{-1}$
QY: 0.2

See description and available derivatives

DiSulfoCy5.5 derivates:
$_{Max}\lambda_{Abs.Em.}$: 673 / 707
EC: 209 000 $M^{-1}cm^{-1}$
QY: 0.2
CF_{260}: 0.11 CF_{280}: 0.08

TetraSulfoCy5.5 derivates:
Max λ Abs.Em.: 678 / 701nm

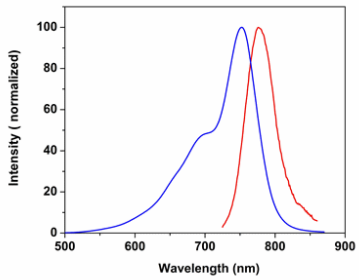
See available derivatives

CY$_{anine}$7 dye

(cont.)

CY$_{anine}$7.5 dye

(cont.)

CY$_{anine}$7 dye  	**Cy7** derivates: Max λ Abs.Em.: 750 / 773nm EC: 199 000 $M^{-1}cm^{-1}$ QY: 0.3 See description and available derivatives	**DiSulfoCy7** derivates: Improved Cy5 (rigidified polymethine chain) Max λ Abs.Em.: 750 / 773nm EC: 240 600 $M^{-1}cm^{-1}$ CF_{260}: 0.04 CF_{280}: 0.04 **SulfoCy7** derivates See available derivatives
CY$_{anine}$7.5 dye	**Cy7.5** derivates: Max λ Abs.Em.: 788 / 808nm EC: 223-240 000 $M^{-1}cm^{-1}$ See description and available derivatives	

● CYanine dyes fluorescence and applications

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The popular family of cyanine dyes, Cy2, Cy3, Cy5, Cy7, are based on the partially saturated indole nitrogen heterocyclic nucleus with two aromatic units being connected via a polyalkene bridge of varying carbon number. These probes exhibit fluorescence excitation and emission profiles that are similar to many of the traditional dyes, such as fluorescein and tetramethylrhodamine, but with enhanced water solubility, photostability, and higher quantum yields. Most of the cyanine dyes are more environmentally stable than their traditional counterparts, rendering their fluorescence emission intensity less sensitive to pH and organic mounting media. In a manner similar to the AlexaFluors, the excitation wavelengths of the Cy series of synthetic dyes are tuned specifically for use with common laser and arc-discharge sources, and the fluorescence emission can be detected with traditional filter combinations.

Main fluorescent characteristics are displayed in above table.

The cyanine dyes generally have broader absorption spectral regions than members of the AlexaFluor family, making them somewhat more versatile in the choice of laser excitation sources for confocal microscopy. For example, using the 547-nanometer spectral line from an argon-ion laser, Cy2 is about twice as efficient in fluorescence emission as AlexaFluor 488. In an analogous manner, the 514-nanometer argon-ion laser line excites Cy3 with a much higher efficiency than AlexaFluor 546, a spectrally similar probe. Emission profiles of the cyanine dyes are comparable in spectral width to the AlexaFluor series.

The Cy5 fluorophore is very efficiently excited by the 647-nanometer spectral line of the krypton-argon laser, the 633-nanometer line of the red helium-neon laser, or the 650-nanometer line of the red diode laser, providing versatility in laser choice. Because the emission spectral profile is significantly removed from traditional fluorophores excited by ultraviolet and blue illumination, Cy5 is often utilized as a third fluorophore in triple labeling experiments. However, similar to other probes with fluorescence emission in the far-red spectral region, Cy5 is not visible to the human eye and can only be detected electronically (using a specialized CCD camera system or photomultiplier). Therefore, the probe is seldom used in conventional widefield fluorescence experiments.

CY$_{anine}$ dyes are available as several analogs and derivatives, as listed below.

● Mono and Bi-functionalized CY$_{anine}$ dyes

• Mono-reactive dyes are suitable for targeted, precise labeling of proteins and oligonucleotides
• BiFunctionalized dyes are more suitable for general strong labeling, such as bis-NHS amine--reactive.

● Sulfonated CY$_{anine}$ dyes

• **sulfonated derivatives** of CY$_{anine}$ fluorochrome confers water-solubility. This mak the dye soluble in aqueous buffer, but mosre remarkably, this confers hydrophilicity to the labeld molecule, improving solubility and stability in solution, but also hydrodynamics (mobility, steric availability, bioactivity).
• An alternative approach is to use **pegylated Cyanine** derivates, which length-adjustable spacer also confers water solubility but also flexibility between the dye and the conjugated molecule (se next paragraph)).

● Pegylated Cyanine

A **PEG** (PolyEthyleneGlycol) spacer in included between the Cyanine dye and the functional group. It imparts benefits starting with water solubility, but also flexibility and adjustable length of the spacer to reduce steric hindrance. They so may improve the bioactivity of the conjugates. **PEO**$_n$ (PolyEthylOxy) compounds are synthetic versions, so single component, while PEG$_x$ compounds are made from purified PEG (poly-disperse spacer length with CV of <10%)

CY$_{anine}$5-PEGs	**MW 5000Da**	**MW 3400**	**MW 2000**
Cy5 PEG$_x$ Amine (Cy5-PEG-NH2)	**1L0970, 5mg**	B0E2T1	AWJSB1
Cy5 PEG$_x$ Acid (Cy5-PEG-COOH)	**1L0980, 5mg**	AWJSA0	AWJSA1
Cy5 PEG$_x$ Hydroxyl (Cy5-PEG-OH)	**1L0990, 5mg**		
Cy5 PEG$_x$ Thiol (Cy5-PEG-SH)	**1B7350, 5mg**		
Cy5 PEG$_x$ NHS (Cy5-PEG-	**1I2240, 5mg**	1I2230	1I2220
Cy5 PEG$_x$ Maleimide (Cy5-PEG-MAL)	**1L1000, 5mg**		
Cy5 PEG$_x$ Biotin (Cy5-PEG-Biot)	**1L1010, 5mg**		

Other MW: please inquire 1to 40KDa
Other CYanines: please inquire Cy3/5/5.5/7/7.5
i.e. **Cy3**-PEG$_x$-NHS MW2000Da (AWJS60), MW3400Da (B36M60)

● Functionalized CY$_{anine}$ dyes

CY$_{anine}$ fluorochrome derivatized by a variety of functional groups are used as agents for labeling molecules by conventional conjugation techniques: for example,
COOH and **Amine** derivated are used in organic synthesis for many reactions, as EDC-mediated amidation of respectively, amines and carboxyls.
NHS ester is used to label amine-containing molecules directly in aqueous solutions, while **Maleimide** derivates can be used to label sulfhydryl-containing molecules.
Azide- and **Alkyne**-derivates (incl.DBCO, TCO) are used in click chemistry reactions to create oriented conjugates in bioorthogonal conditions.

Functional group	Cyanines Technical sheet[]	Application overview
Carboxyl NT-Carbox	FT-CY3CA0	in organic synthesis for many reactions for labeling amine groups mediated by EDC
Amino NT-Amine	FT-CY3AM0	derivatization of various targets by the reaction withelectrophilic groups, in organic synthesis, and also for labeling carboxyl groups mediated by EDC in aqueous solutions, or by enzymatical reactions involving transamination.
NHS NT-NHSuccinmide	FT-BB7493	for labeling amino groups in mild aqueous conditions
TFP		amine reactive
STP		amine reactive
Maleimide NT-Maleime	FT-JO6660	for labeling thiol groups
Hydrazide NT-Hydrazine	FT-LQV050	reacts with carbonyl groups
Azide NT-Azide_	FT-HO7250	for labeling alkyne groups and other Click Chemistry partners (DBCO, TCO)
Alkyne NT-Alkyne	FT-1A6320	for labeling azide groups (Click Chemistry)
DBCO NT-Alkyne/DBCO	FT-DQP790[] FT-AWHFX0[] FT-1Q7081[PEGx]	CycloAlkynes, for strain-promoted Click reactions
TCO NT-Alkyne/TCO		trans-CycloOctenes, for strain-promoted Click reactions
Tetrazine NT-Tetrazine	FT-WXS720	reacts with strained alkenes (TCO) .
AminoOxy NT-AminoOxy	(AWJSC1)	For Oxime ligation (with aldehydes)

● CY_{anine} conjugates: ligands, proteins, haptens

• CY_{anine} labeled compounds are available as well: please inquire for phalloidin, (strep)avidin, biotin, PEGs, Dextrans, Lipids (PS,…)

● CY_{anine} Labeling Kits

3Dye 2D DI GE (CY2/CY3/CY5) labeling kit (EV0870)

$CY_{anine}2$ dye

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● **$CY_{anine}2$** (Cy2) An orange-to-red fluorescence-emitting dye. Can replace Fluoresceins.
Abs./Em.: 489 / 506nm EC: 150 000 QY: 0.12
Also known as Cy2.
Alternative superior dye is FluoProbes488 (Brighter, unrivalled photostability).

CYanine2 - NHS ester, minimal dye #FP-LV2330, 5nM FP-LV2332, 25nM

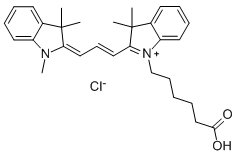
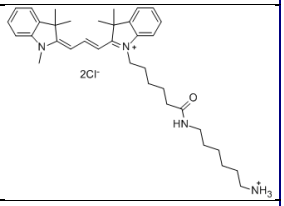
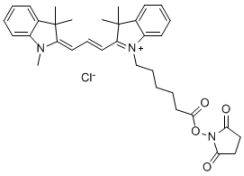
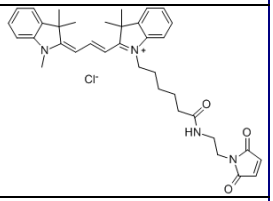
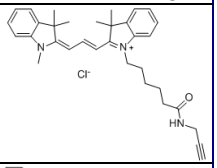
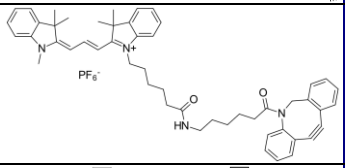
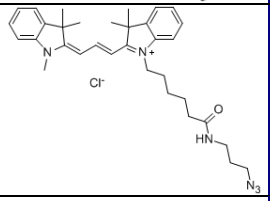
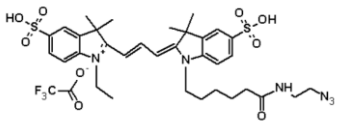
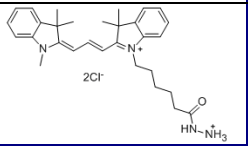
$CY_{anine}3$ dye

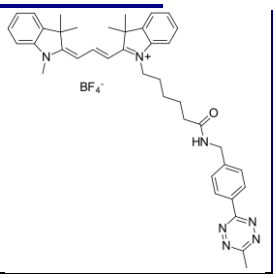
● **$CY_{anine}3$** : An orange-to-red fluorescence-emitting dye.
Abs./Em.: 555/567nm EC: 150 000 QY: 0.12
Also known as Cy3.
$CY_{anine}3$ matches standard filter set for Tetramethylrhodamine (TRITC), Cy3®, AlexaFluor® 546, and Dy Light® 549, Chromeo546 and Colorada550 Z. See alternative superior dye: FluoProbes547H.
$Cy_{anine}3$ is one of the most broadly used fluorophores which can be detected by various fluorometers, imagers, and microscopes. Due to inherently high extinction coefficient, this dye is also easily detected by naked eye on gels, and in solution. Can replace TRITC, A555, AF546 and DL549&550 dyes, Chromeo546.

Cyanine3 is a popular fluorophore for microscopy, imaging, and other applications. The dye has a very high molar extinction coefficient and has enhanced fluorescence upon binding to proteins. It makes it a very bright label for biomolecules.

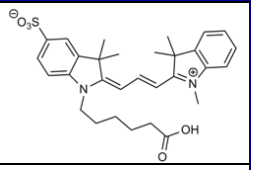
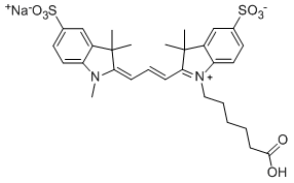
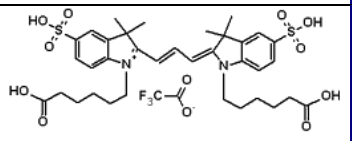
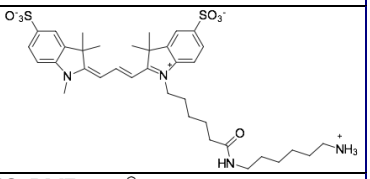
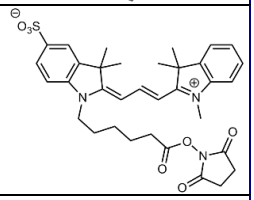
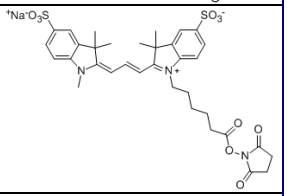
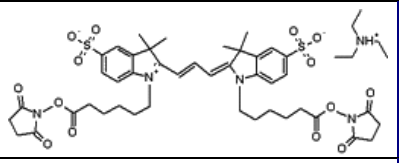
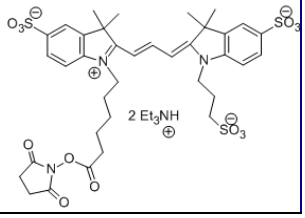
Its pH insensitive orange-fluorescent dye that can be excited using the 532 nm or 555 nm laser line and visualized with TRITC (tetramethylrhodamine) filter sets in Microscopy and in Flow cytometry. Cy3 give less background than TAMRA and most other commonly used fluorescent dyes.

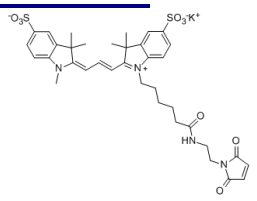
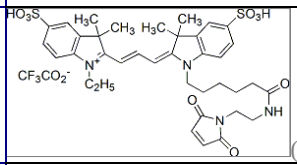
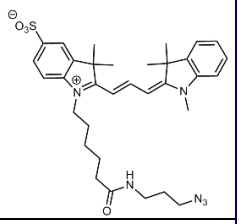
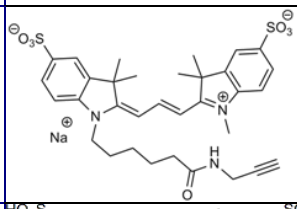
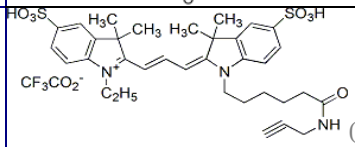
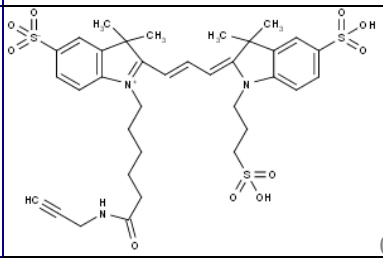
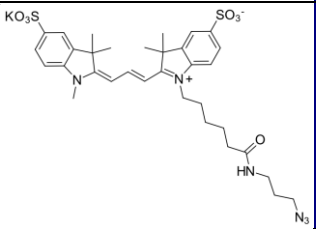
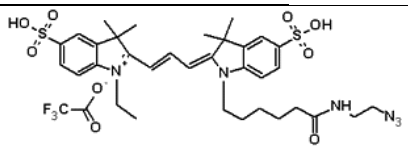
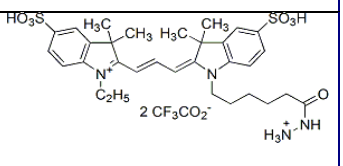
A sulfonated and water soluble analog, **sulfo-Cyanine3**, is available and recommended for the labeling of sensitive proteins in purely aqueous environments. It possesses very high extinction coefficient and good quantum yield, outstanding photostability, and high hydrophilicity due to the presence of two sulfo groups. It is negatively charged at physiological pH values.

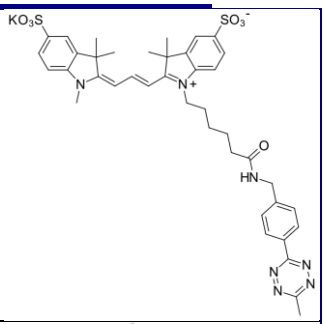
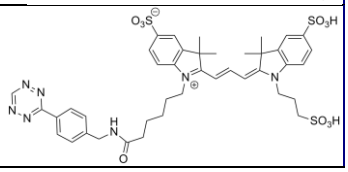
Product name cat.number/qty§	**MW** g·mol^{-1} (+added MW)	**λ abs./em.** nm	**mol. abs.** M^{-1}cm^{-1}	Comment, structure
CY$_{anine}$3 –COOH (M) FP-CY3CA0, 1mg FP-CY3CA1, 5mg FP-CY3CA4, 100mg CAS: 1144107-76-5, 1361402-15-4, 1251915-29-3 [I-]	493.08	555/570	150 000	Soluble in organic solvents (DMF, DMSO, dichloromethane, chloroform, MeCN, alcohols). Insoluble in water 
CY$_{anine}$3 –Amine (M) FP-WZE090, 1mg FP-WZE092, 25mg FP-WZE094, 100mg Also FP-CY3AM0	627.73	"	"	Moderate solubility in water, good in polar organic solvents (DMF, DMSO, alcohols) 
CY$_{anine}$3 – NHS, K salt (M) FP-BB7493, 1mg FP-BB7495, 25mg FP-BB7497, 100mg FP-1H4680, 10mM solution in DMSO (5 / 1 0/ 25nmol)) CAS: 1032678-38-8, 1032815-92-1	590.15 [+474.20]	"	"	Soluble in organic solvents (DMSO, DMF, dichloromethane); Low solubility in water 
CY$_{anine}$3 –Maleimide, K salt (M) FP-OO2030, 1 mg FP-OO2032, 25 mg FP-OO2034, 100 mg	615.20	"	"	
CY$_{anine}$3 –Alkyne, K salt (M) FP-1A6320, 1mg	530.14	"	"	Soluble in organic solvents (DMF, DMSO, dichloromethane); Insoluble in water 
CY$_{anine}$3 –DBCO, K salt (M) FP-WXS880, 1mg Solubility is good in DMF, DMSO, DCM, alcohols	793.48	"	"	
CY$_{anine}$3 –Azide, K salt (M) FP-HO7250, 1mg FP-EV0900, 10mM solution in DMSO (5 / 1 0/ 25nmol)	575.19	"	"	Soluble in organic solvents (DMF, DMSO, dichloromethane), insoluble in water 
CY$_{anine}$3 –Azide, K salt (M) FP-LQV020, 1mg	812.88	555/565		
CY$_{anine}$3 –Hydrazide, K salt (M) FP-SJH870, 1mg	543.57	"	"	Moderate solubility in water, good in polar organic solvents (DMF, DMSO, alcohols) 

CY$_{anine}$3 – Tetrazine, BF_4 salt (M) FP-AW2ND0, 1mg	727.64 [+611.4]	“	“	good solubility in DMF, DMSO, DCM	

Sulfo-CY$_{anine}$3 derivatives

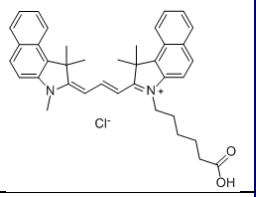
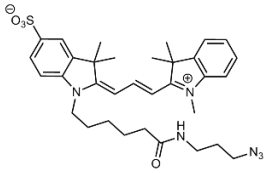
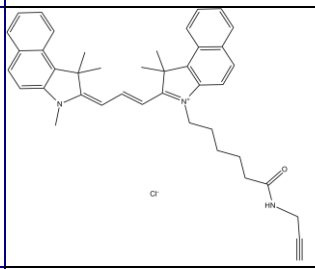
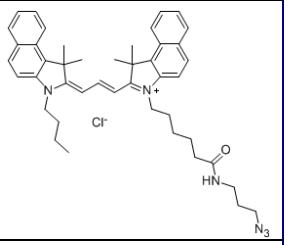
Product name cat.number/qty§	MW g·mol^{-1} (+added MW)	λ abs./em. nm	mol. abs. M^{-1}cm^{-1}	Comment, structure
Mono-Sulfo-CY$_{anine}$3– COOH (M) FP-1I5880, 1mg FP-1I5881, 25mg FP-1I5883, 100mg	536.68	548 / 563	162 000	Purple solid Good solubility in water, DMSO, DMF, MetoH and Acetonitrile Shows a big tolerance to pH value and matchless photostability. 
DiSulfo-CY$_{anine}$3 – COOH, Na salt (M) FP-1E1700, 5mg FP-1E1701, 25mg FP-1E1703, 100mg Also as K salt (FP-1E1704/6/8) Also as TFA salt (FP-LQV170)	638.17 (Na salt)	“	“	Soluble Good in water, DMF, DMSO. Low in non-polar organic solvents. 
DiSulfo-CY$_{anine}$3 – bis-COOH, TFA salt (M) FP-XEP720, 1mg	830.88	“	“	soluble in DMSO 
DiSulfo-CY$_{anine}$3 – Amine (M) FP-0B8310, 1mg	714.94	“548/563	“	Good solubility in water, alcohols, DMSO, DMF 
Mono-Sulfo-CY$_{anine}$3 – NHS (M) FP-IO1890, 1mg	633.76	“	“	good solubility in water, DMSO, DMF, EtOH, MeOH and Acetonitrile 
DiSulfo-CY$_{anine}$3 – NHS (M) FP-1B7980, 1mg Also as TFA salt (FP-LQU980)	735.80	“	“	Solubility very high in water, good in polar organic solvents (DMF, DMSO) 
DiSulfo-CY$_{anine}$3 – bis-NHS, TEA salt (M) FP-XEP730, 1mg	1012.20	“	“	soluble in DMSO 
TriSulfo-CY$_{anine}$3 NHS FP-1I1920, 1mg The **sulfopropyl group** provides increased fluorescence brightness, improved photostability, and lower nonspecific binding	1024.94 (822.96)	“555/580	“	

DiSulfo-CY$_{anine}$3 – Maleimide, K salt (M) FP-SJI050, 1mg FP-SJI052, 25mg FP-SJI054, 100mg	776.96	"	"	soluble in water, DMSO, DMF 
DiSulfo-CY$_{anine}$3 – Maleimide, TFA$^-$ salt FP-LQV010, 1mg	938.0 CF_3CO_2 salt	555/ 565		 (bears 2 sulfo, ethyl)
Mono-Sulfo-CY$_{anine}$3–Alkyne, Na salt (M) FP-1C4620, 1mg	573.75	550 / 567	96 800 QY: 0.15	Soluble in DMF, DMSO, MetOH, EtOH and acetonitrile. Poorly soluble in water (bears 1 sulfo, 1 methyl) 
DiSulfo-CY$_{anine}$3 – Alkyne, Na salt (M) FP-1C4630, 1mg Also as K salt (FP-0B8390)	675.79 (Na salt) 691.90 (K salt) [+653.2]	548 / 567	162 000 QY: 0.15	 Dark red solid Good solubility in water, and polar organic solvents (DMF, DMSO); Insoluble in organic solvents (DCM, Chloroform).
Di-Sulfo-CY$_{anine}$3 – Alkyne, TFA$^-$ salt FP-LQV030, 1mg	781.86	555 / 565		 (bears 2 sulfo, 1 ethyl)
Tri-Sulfo-CY$_{anine}$3-Alkyne FP-1C8831, 5mg	761.93	555/580	151 000	 (bears 3 Sulfo, 1 butylSul
Mono-Sulfo-CY$_{anine}$3 – Azide (M) FP-1C4650, 1mg	618.8	"	"	Good solubility in water, DMSO, DMF, MeOH and Acetonitrile
DiSulfo-CY$_{anine}$3 – Azide, Na salt FP-KV5730, 1m FP-KV5731, 5mg Also as K salt (FP-1C4660)	720.85	"	"	Very soluble in water 
DiSulfo-CY$_{anine}$3 - Azide, TFA salt (M) FP-LQV020, 1mg	812.88	555 / 565		
DiSulfo-CY$_{anine}$3 – HydrAzide, TFA salt FP-LQV050, 1mg	872.85	555 / 565	-	

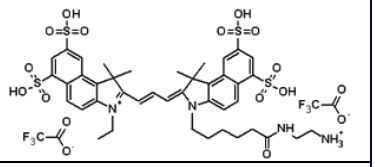
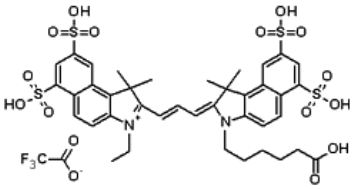
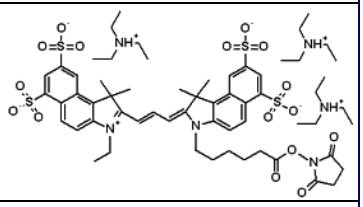
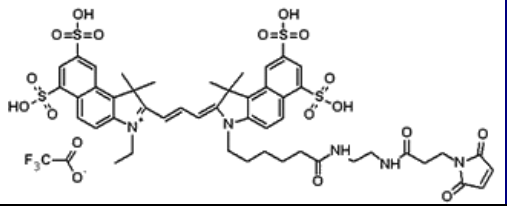
DiSulfo-CY$_{anine}$3 – Tetrazine (M) FP-0B8300, 1mg	838.05	“	“	Soluble in in water, DMF, DMSO	
TriSulfo-CY$_{anine}$3 – Tetrazine (M) FP-AW2NI0, 1mg	894.05	550/570	150 000	Soluble in in water, DMF, DMSO	

CY$_{anine}$3.5 dye

● **CY$_{anine}$3.5** can replace SulfoRhodamine 101.
Abs./Em.: 591 / 604nm EC: 116 000 QY: 0.36
Also known as Cy3.5.
CY$_{anine}$3.5 matches standard filter set for SR101(SulfoRhodamine101), TR.
See also alternative superior dye:FluoProbes594.

Product name cat.number/qty[§]	**MW** g·mol^{-1} (+added MW)	**λ abs./em.** nm	**mol. abs.** M^{-1}cm^{-1}	Comment, structure
CY$_{anine}$3.5 –COOH (M) FP-SJH880, 1mg CAS: 1144107-78-9	593.20	591 /604	116 000	
CY$_{anine}$3.5 – Amine (M) Inquire		"	"	
CY$_{anine}$3.5 – NHS (M) FP-FZ8730, 1mg Inquire for 10mM solution in DMSO (5 / 1 0/ 25nmol)	690.27	"	"	Dark purple powder Soluble in organic solvents (DMF, DMSO, dichloromethane), insoluble in water 
CY$_{anine}$3.5 – Maleimide (M) Inquire		"	"	
CY$_{anine}$3.5 – Alkyne (M) FP-AXFCF1, 5mg	630.26	"	"	 >63mg/mL in DMSO
CY$_{anine}$3.5 – Azide FP-CY3AZ0, 1mg FP-FZ8760, 10mM solution in DMSO (5 / 1 0/ 25nmol)	717.38 [681.9]	"	"	soluble in organic solvents (DMF, DMSO, dichloromethane), insoluble in water 
CY$_{anine}$3.5 – Hydrazide (M) inquire		"	"	

Sulfo-CY$_{anine}$3.5 derivatives

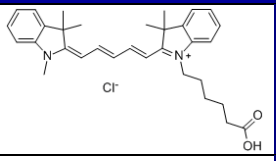
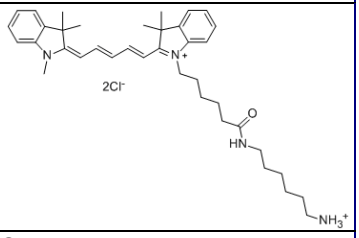
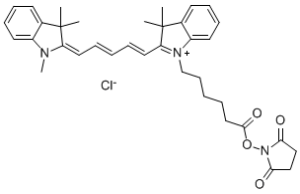
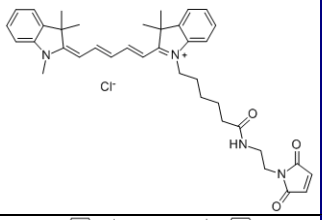
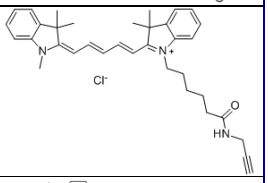
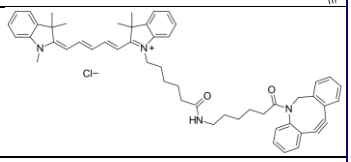
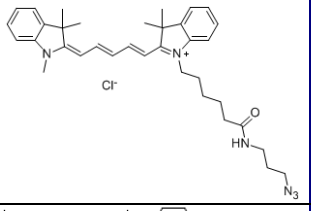
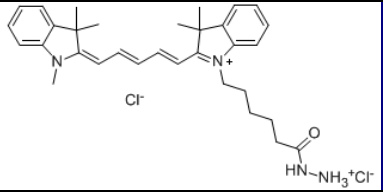
Product name cat.number/qty[§]	**MW** g·mol^{-1} (+added MW)	**λ abs./em.** nm	**mol. abs.** M^{-1}cm^{-1}	Comment, structure
Tetra-Sulfo-CY$_{anine}$3.5 – COOH, TFA salt (M) FP-LQV340, 1mg	1161.15			
Tetra-Sulfo-CY$_{anine}$3.5 – Amine, TFA salt (M) FP-LQV180, 1mg	1005.04			
Tetra-Sulfo- CY$_{anine}$3.5 – NHS, TEA salt (M) FP-LQV060 , 1mg	1291.66			
Tetra-Sulfo-CY$_{anine}$3.5 – Maleimide, TFA salt FP-LQV350, 1mg	1198.24 CF_3CO_2 salt	581 / 596		bears different substituents (4 sulfo, ethyl)
Tetra-Sulfo- CY$_{anine}$3.5 – Maleimide, TFA salt (M) FP-LQV350)	1198.24			

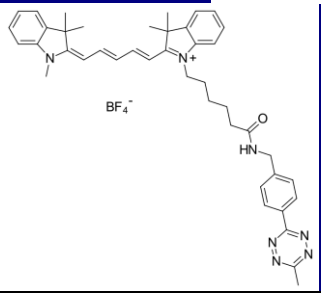
$CY_{anine}5$ dye

● **$CY_{anine}5$** : A far-red fluorescence-emitting dye.
Excitation/emission maximum: 646 / 662nm EC: 250 000 QY: 0.12
Also known as Cy5.
$CY_{anine}3$ matches standard fiter set for TMR, Cy5®, Alexa Fluor® 647, and DyLight® 649&650, CF647, C645A, PF647 and Colorada645Z for all applications. See alternative superior dye: FluoProbes647H.

Cyanine5 is an extremely popular fluorophore. This dye emits in red region. It has an outstanding extinction coefficient, and a good fluorescence quantum yield, and is therefore very bright. It is very photostable; its ability to blink in the presence of thiols makes it a dye of choice for STORM super-resolution microscopy. The dye is extensively used in qPCR. It forms a FRET pair with Cyanine3 as donor.
This dye is available as a sulfonated derivates for conferring hydrophilicity: Sulfo-Cyanine5 is a water soluble fluorophore for the red part of the spectrum. Its extinction coefficient is among the highest for known dyes, and its quantum yield is also good. The dye is very photostable. When thiols are present in the medium, sulfo-Cyanine5 blinks upon very intense laser irradiation - it is a dye of choice for STORM super-resolution microscopy.

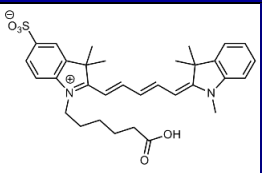
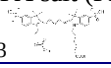
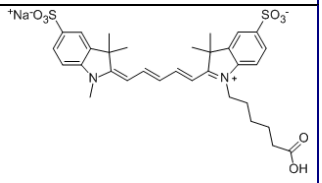
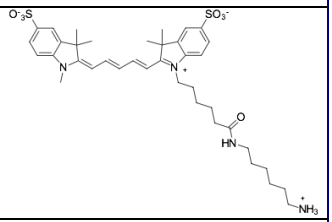
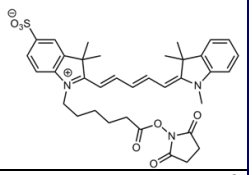
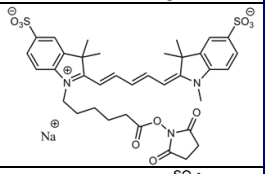
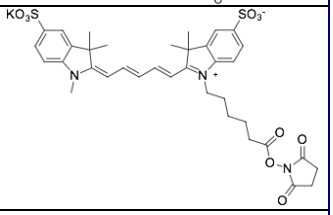
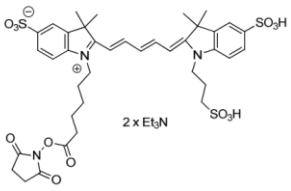
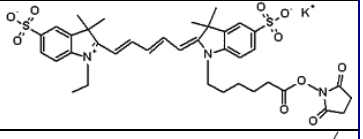
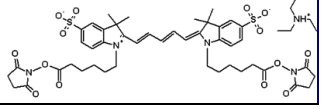
Cy5 is excited maximally at 650 nm to about 98% of maximum with a krypton/argon laser (647 nm line) or to about 63% of maximum with a helium/neon laser (633 nm line). It fluoresces maximally at 670 nm, that has a lower autofluorescence of biological specimens than shorter wavelengths. Cy5 can be used with a variety of other fluorophores for multiple labeling due to a wide separation of its emission from that of shorter wavelength-emitting fluorophores. However, emission cannot be seen well by eye, and Cy5 cannot be excited optimally with a mercury lamp. Therefore, this dye is not recommended for use with conventional epifluorescence microscopes. It is most commonly visualized with a confocal microscope equipped with an appropriate laser for excitation and a far-red detector. Cy5, as FP547H, is less expensive and equally bright alternative to Allophycocyanin conjugates for flow cytometry.
$CY_{anine}5$ fluorophore has become an incredibly popular label in life science research and diagnostics. Fluorophore emission has maximum in red region, where many CCD detectors have maximum sensitivity, and biological objects have low background. Dye color is very intense, therefore quantity as small as 1 nanomol can be detected in gel electrophoresis by naked eye.

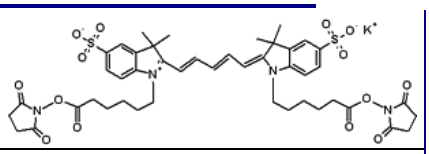
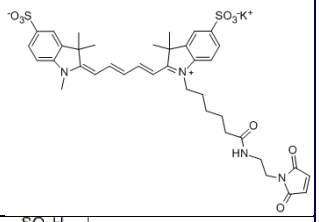
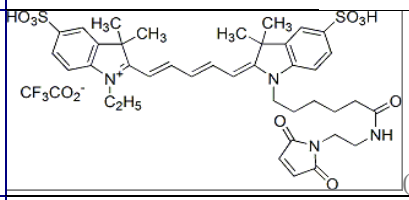
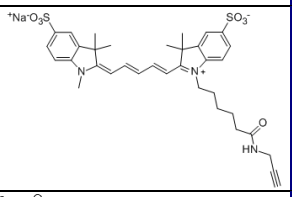
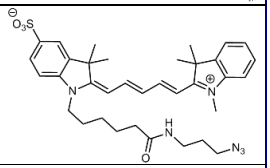
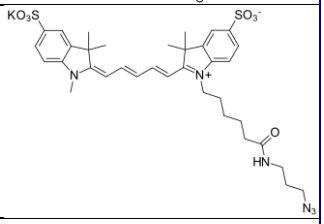
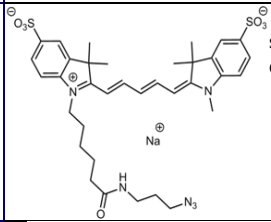
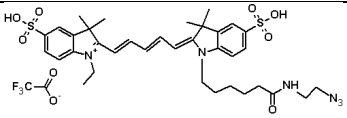
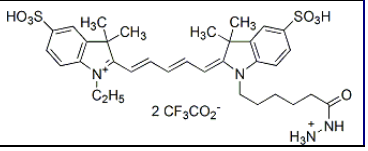
cat.number/qty*	**MW** ($g \cdot mol^{-1}$) +added MW	**λ abs./em.** (nm)	**mol. abs.** ($M^{-1}cm^{-1}$)	Comment, structure
CY$_{anine}$5 –COOH, Cl salt (M) FP-OO2380, 1mg	519.2	646/662	250 000	soluble in organic solvents (DMF, DMSO, dichloromethane), MeOH, Alcohols, insoluble in water 
CY$_{anine}$5 –Amine, Cl salt (M) FP-CY5AM0, 1mg	653.77	"	"	moderate solubility in water, good in polar organic solvents (DMF, DMSO, alcohols) 
CY$_{anine}$5 – NHS, Cl salt (M) FP-BB2070, 1mg FP-BB2074, 25mg FP-BB2077, 100mg FP-SJH900, 10mM solution in DMSO (5 / 1 0/ 25nmol)	616.19	"	"	Good solubility in polar (DMSO, DMF) and chlorinated (DCM, chloroform) organic solvents, low solubility in water 
CY$_{anine}$5 –Maleimide, Cl salt (M) FP-JO6660, 1mg FP-JO6662, 25mg FP-JO6664, 100mg	641.24	"	"	Soluble in organic solvents (DMF, DMSO, dichloromethane), insoluble in water 
CY$_{anine}$5 –Alkyne, Cl salt (M) FP-OO5590, 1mg	556.18	"	"	Good solubility in dichloromethane, DMF, DMSO, alcohols; Low solubility in water 
CY$_{anine}$5 –DBCO, Cl salt (M) FP-AWHFX0, 1mg	929.03 [928.4]	"	"	Good isolubility in DMF, DMSO, chlorinated organic solvents 
CY$_{anine}$5 –Azide, Cl salt (M) FP-CY5AZ0, 1mg FP-EV0910, 10mM solution in DMSO (5 / 1 0/ 25nmol) (J)	601.22 [+565.8]	"	"	Soluble in organic solvents (DMSO, DMF, dichloromethane); Low solubility in water 
CY$_{anine}$5 – HydrAzide FP-IO2490, 1mg	569.61	"	"	Dark blue powder / Solution Significant solubility in water, good in polar organic solvents (DMF, DMSO, alcohols) 

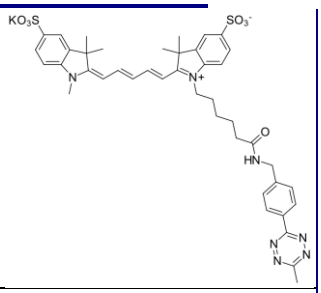
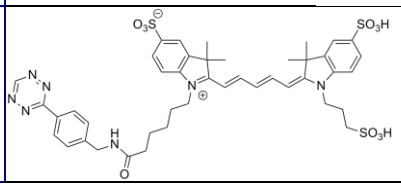
CY$_{anine}$5 – Tetrazine, BF_4 salt (M) FP-AW2NE0, 1mg	811.84 [637.4]	"	"	good solubility in DMF, DMSO, DCM 

More: CYanine5-PEG-Thiol (FP-1B7350) , CY$_{anine}$5 Boc-hydrazide

Sulfo-CY$_{anine}$5 derivatives

Product name cat.number/qty§	MW g·mol^{-1} (+added MW)	λ abs./em. nm	mol. abs. M^{-1}cm^{-1}	Comment, structure
Mono-Sulfo-CY$_{anine}$5 – COOH (M) FP-1I5890, 1mg FP-1I5891, 5mg FP-1I5895, 100mg	562.72	"	"	Soluble in DMSO, DMF, methanol 
DiSulfo-CY$_{anine}$5 – COOH (M) FP-KV5740, 1mg FP-KV5741, 5mg Also as TFA salt (FP-LQV190) MW: 770.83 	664.76	646/662	271 000	CAS : 1121756-16-8, 1144162-77-5 Good solubility in water, DMF, DMSO. Low in non-polar organic solvents. 
DiSulfo-CY$_{anine}$5 – Amine (M) FP-0B8450, 1mg FP-0B8451, 5mg FP-0B8455, 100mg	740.98	"	"	Good in water, DMF, DMSO, alcohols 
Mono-Sulfo-CY$_{anine}$5 – NHS, Na salt (M) FP-1G2520, 1mg	659.75	"	"	Soluble in DMF, DMSO and **water** Insoluble in organic solvents (DCM, chloroform) 
Di-Sulfo-CY$_{anine}$5 – NHS, Na salt (M) FP-1A8470, 1mg	761.87	"	"	Soluble in DMF, DMSO and **water** Insoluble in organic solvents (DCM, chloroform) 
Di-Sulfo-CY$_{anine}$5 – NHS, K salt (M) FP-IO0510, 1mg	777.95	"	"	very good solubility in water, good in DMF and DMSO 
DiSulfo-CY$_{anine}$5 – NHS, TFA salt (M) FP-LQU990, 1mg	855.07	"	"	
Tri-Sulfo-CY$_{anine}$5 – NHS, TFA salt FP-1I1950, 1mg FP-1I1951, 5mg FP-1I1952, 25mg	1050.35 (triethylammonium salt) [+847.97 (protonated)]	649 / 670	250 000	
DiSulfo-CY$_{anine}$5 – NHS, K salt (M) FP-XEQ670, 1mg	791.97	"	"	
DiSulfo-CY$_{anine}$5 bisNHS FP-LQV120, 1mg	1038.23	"	"	

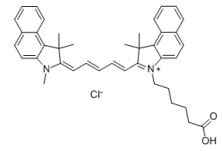
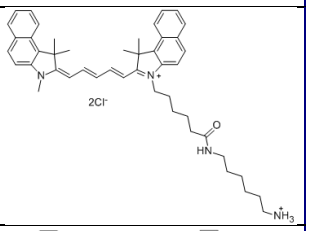
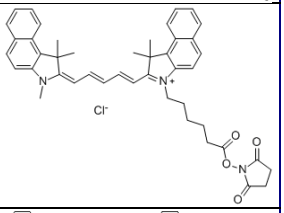
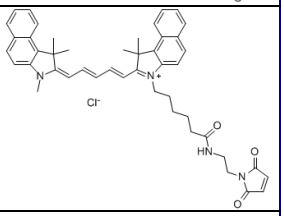
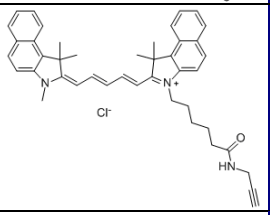
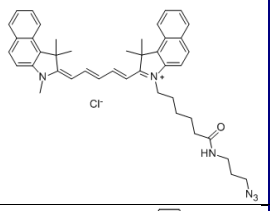
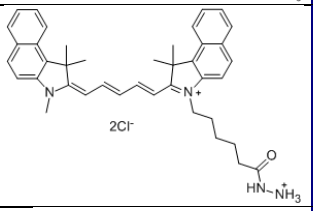
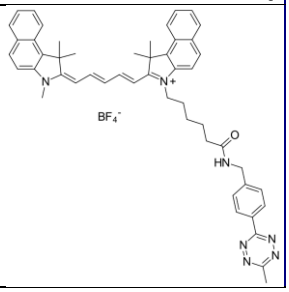
DiSulfo-CY$_{anine}$5 – bisNHS, K salt (M) FP-XEQ680, 1mg	975.13	"	"	Good solubility in DMF, DMSO, water 
DiSulfo-CY$_{anine}$5 – Maleimide (M) FP-1N8961, 1mg FP-1N8963, 25mg FP-1N8965, 100mg	803.02	649 / 665		Dark Blue powder. soluble in water, DMSO, DMF 
DiSulfo-CY$_{anine}$5 – Maleimide, TFA salt (M) FP-LQV070, 1mg	892.87	649 / 665		 (2 sulfo, 1 ethyl)
Tri-Sulfo-CY$_{anine}$5 – Maleimide (M) FP-1H1940, 1mg FP-1H1942, 25mg FP-1H1944, 100mg	1074.50 (triethylammonium salt) [873.04 (protonated)]	649 / 670		bears 3 sulfo groups (2 sulfo + 1 buthyl-Sulfo) EC : 250000 ; CF_{260}: 0.05, CF_{280}: 0.05
DiSulfo-CY$_{anine}$5 – Alkyne (M) FP-SJI060, 1mg	717.94	"	"	very high solubility in water, DMSO, DMF 
Mono-Sulfo-CY$_{anine}$5 – Azide (M) FP-1F1880, 1mg	644.83	"	"	Soluble in DMF, DMSO, methanol and acetonitrile 
DiSulfo-CY$_{anine}$5 – Azide, K salt FP-JV6320, 1mg FP-JV6321, 5mg FP-JV6323, 25mg	746.87	"	"	Very soluble in water and polar organic solvent (DMF, DMSO), Insoluble in organic solvents (DCM, chloroform) 
DiSulfo-CY$_{anine}$5 – Azide, Na salt (M) FP-1C4670, 1mg	746.87 (Na salt)	646 / 664	271 000 QY: 0.28	 Soluble in water and polar organic solvent (DMF, DMSO), insoluble in organic solvents (DCM, chloroform)
DiSulfo-CY$_{anine}$5 – Azide , TFA salt (M) FP-LQV080, 1mg	838.91	649 / 665		
Sulfo-CY$_{anine}$5 – HydrAzide, TFA salt FP-LQV110, 1mg	898.89 [672.85 without salt]	"	"	

DiSulfo-CY$_{anine}$5 – Tetrazine, K salt (M) FP-AW2NH0, 1mg	864.1	“	“	good solubility in water, DMF, DMSO	
TriSulfo-CY$_{anine}$5 – Tetrazine, BF_4 salt (M) FP-AS4K70, 1mg	919.27	“	“		good solubility in water, DMSO, DMF

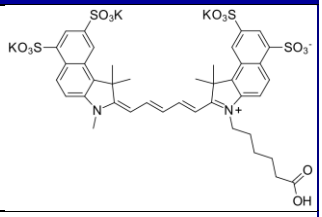
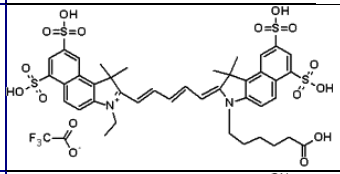
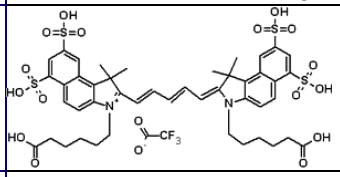
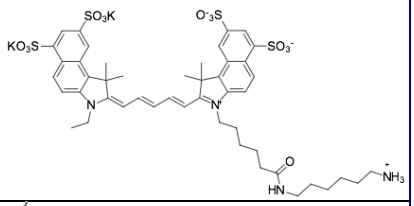
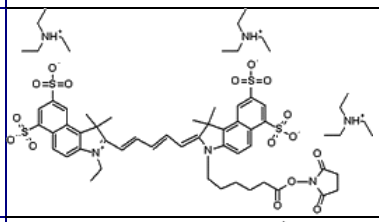
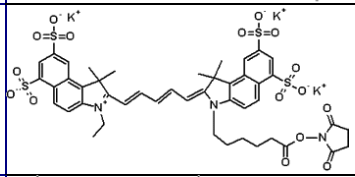
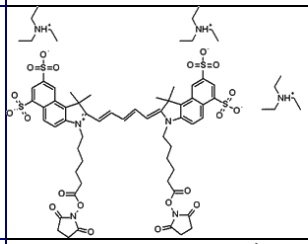
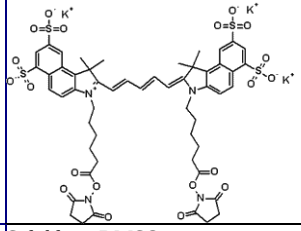
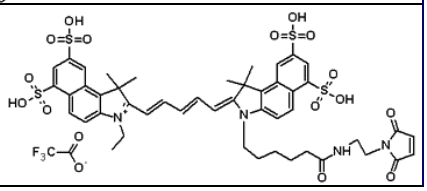
CY$_{anine}$5.5 dye

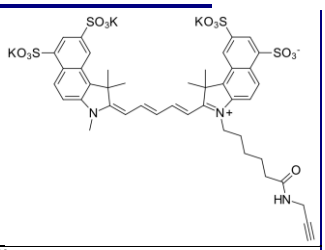
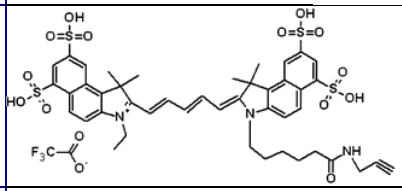
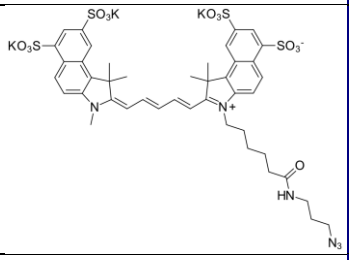
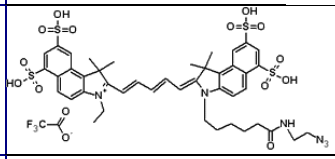
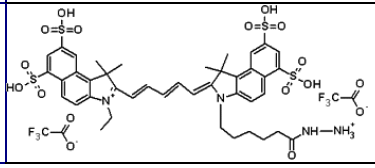
● **CY$_{anine}$5.5** : A near-infrared (IR) fluorescence-emitting dye.
Excitation/emission maximum: 673 / 707nm. EC: 209 000 QY: 0.12
Can replace near infrared fluorescent dyes.

See alternative superior dye: FluoProbes682.

Product name cat.number/qty[§]	**MW** g·mol^{-1} (+added MW)	**λ abs./em.** nm	**mol. abs.** ($M^{-1}cm^{-1}$)	Comment, structure
CY$_{anine}$5.5 –COOH, Cl salt (M) FP-JV6830, 1mg FP-JV6831, 5mg FP-JV6835, 100mg CAS: 1144107-80-1, 1256349-47-9	619.23	673/707	209 000	Dark Blue Powder Soluble in organic solvents (DMSO, DMF, dichloromethane), low solubility in water 
CY$_{anine}$5.5 –Amine, Cl salt (M) FP-WZE100, 1mg	753.88	"	"	Moderate solubility in water, good in polar organic solvents (DMF, DMSO, alcohols) 
CY$_{anine}$5.5 – NHS, Cl salt (M) FP-FZ8750, 1mg	716.31	"	S	Soluble in organic solvents (DMSO, DMF, dichloromethane), low solubility in water 
CY$_{anine}$5.5 –Maleimide, Cl salt (M) FP-KV6770, 1mg FP-KV6771, 5mg	741.36	"	S	Soluble in organic solvents (DMSO, DMF, dichloromethane), low solubility in water 
CY$_{anine}$5.5 –Alkyne, Cl salt (M) FP-SJH910, 1mg	656.30	"	"	Good solubility in organic solvents (DMF, DMSO, acetonitrile, DCM, alcohols), low in water 
CY$_{anine}$5.5 –Azide, Cl salt (M) FP-GO7260, 1mg & FP-FZ8770, 100µl @10mM in DMSO	701.34	"	"	Soluble in organic solvents (DMSO, DMF, dichloromethane), low solubility in water 
CY$_{anine}$5.5 –Hydrazide, Cl salt (M) FP-WZE110, 1mg	669.73	"	"	Moderate solubility in water, good in polar organic solvents (DMF, DMSO, alcohols) 
CY$_{anine}$5.5 – Tetrazine, BF_4 salt (M) FP-AW2NF0, 1mg	911.96 [737.4]	"	"	Good solubility in DMF, DMSO, DCM 

Sulfo-CY$_{anine}$5.5 derivatives

Product name cat.number/qty§	MW g·mol^{-1} (+added MW)	λ abs./em. nm	mol. abs. M^{-1}cm^{-1}	Comment, structure
Tetra-Sulfo-CY$_{anine}$5.5 – COOH, K salt (M) FP-0B8440, 1mg	1017.31	673/691	195 000 CF260:0.09 CF280:0.11	Good solubility in water, DMF, DMSO 
Tetra-Sulfo-CY$_{anine}$5.5 – COOH, TFA salt (M) FP-LQV220, 1mg	1031.08	678/701	"	 Soluble in DMSO (4 sulfo, 1 ethyl)
Tetra-Sulfo-CY$_{anine}$5.5 – bis-COOH, TFA salt (M) FP-LQV210, 1mg	1117.17	678/701	"	 Soluble in DMSO
Tetra-Sulfo-CY$_{anine}$5.5 – Amine, K salt (M) FP-0B8420, 1mg	1077.41	"	"	good solubility in water, DMF, DMSO (4 sulfo, 1 ethyl) 
Tetra-Sulfo-CY$_{anine}$5.5 – NHS, TFA salt FP-LQV160, 1mg	1317.72 [+1014.12]	"	"	
Tetra-Sulfo-CY$_{anine}$5.5 – NHS, K salt FP-XEQ690, 1mg Also FP-0B8400	1128.40	678/701	"	 Soluble in DMSO (4 sulfo, 1 ethyl)
Tetra-Sulfo-CY$_{anine}$5.5 – bisNHS, TEA salt (M) FP-LQV130, 1mg	1500.86	678/701	"	 Soluble in DMSO
Tetra-Sulfo-CY$_{anine}$5.5 – bisNHS, K salt FP-XEQ700, 1mg	1311.56	"	"	 Soluble in DMSO
Tetra-Sulfo-CY$_{anine}$5.5-Maleimide, TFA salt FP-LQV280, 1mg	1153.20	"	"	Soluble in DMSO (4 sulfo, 1 ethyl) 

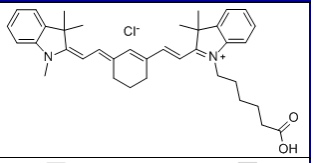
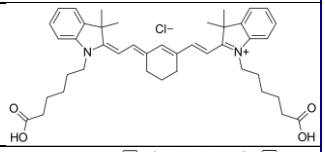
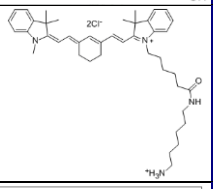
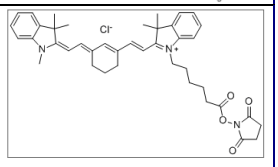
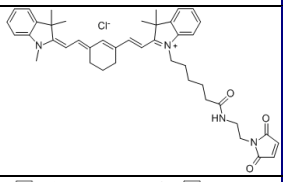
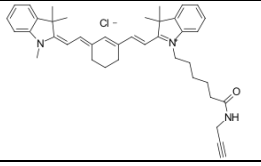
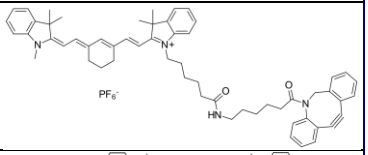
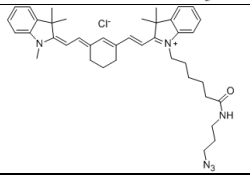
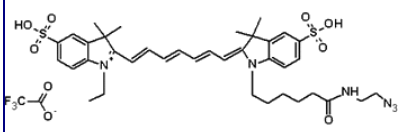
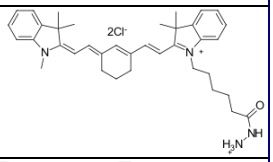
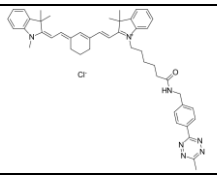
Tetra-Sulfo-CY$_{anine}$5.5 – Alkyne, K salt (M) FP-0B8410, 1mg	1054.36	“	“	Good solubility in water, DMF, DMSO 
Tetra-Sulfo-CY$_{anine}$5.5 – Alkyne, TFA salt FP-LQV320, 1mg	1068.14	“	“	 Soluble in DMSO (4 Sulfo, 1 Ethyl)
Tetra-Sulfo-CY$_{anine}$5.5 – Azide, K salt FP-0B8430, 1mg	1099.41 [+984.2]	“	“	Good solubility in water, DMF, DMSO 
Tetra-Sulfo-CY$_{anine}$5.5 – Azide, TFA salt FP-LQV310, 1mg	1099.17	678/701	“	 Soluble in DMSO (4 sulfo, 1 ethyl)
Tetra-Sulfo-CY$_{anine}$5.5 – HydrAzide, TFA salt FP-LQV300, 1mg	1159.13	“	“	 Soluble in DMSO (4 sulfo, 1 ethyl)

$CY_{anine}7$ dye

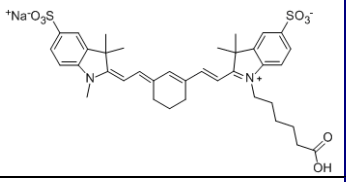
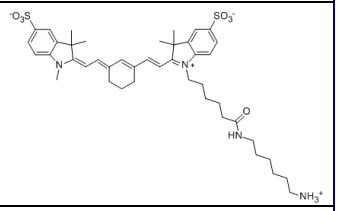
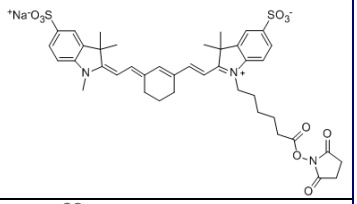
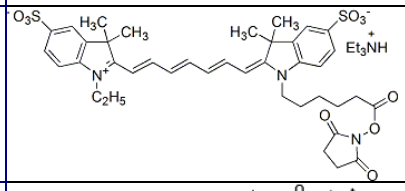
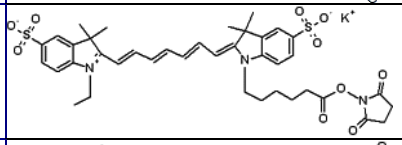
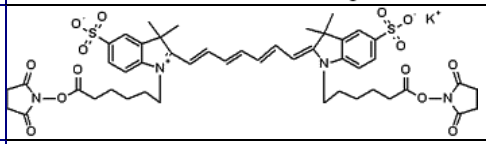
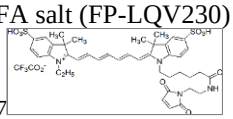
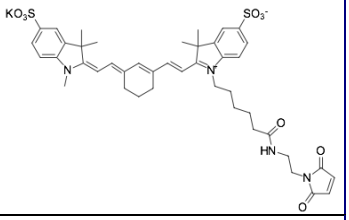
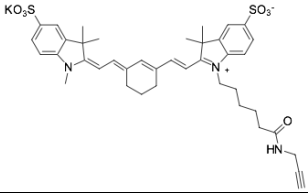
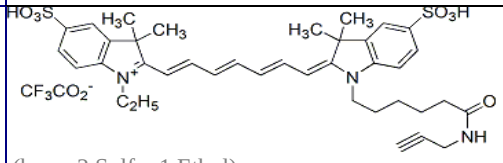
● **$CY_{anine}7$**: A near-IR fluor that is invisible to the naked eye.
Excitation/emission maximum: 750 / 773nm EC: 199 000 QY: 0.3
It is used in in vivo imaging applications.
CY_{anine} 7 is also known as Cy7, Cyanine7

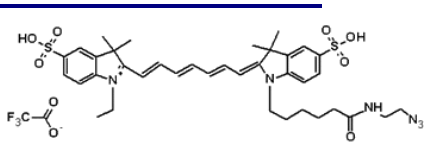
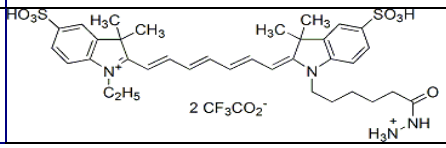
$CY_{anine}7$ is available as an improved analog fluorophore, which structure features a rigidized design of central polymethyne chain. This drives quantum yield improved by 20% compared with parent structure, and higher photostability. This fluorescent dye has thus increased fluorescence brightness, and it is especially useful for NIR imaging.

See alternative superior dye: FluoProbes752.

Product name cat.number/qty§	**MW** g·mol^{-1} (+added MW)	**λ abs./em.** nm	**mol. abs.** M^{-1}cm^{-1}	Comment, structure
CY$_{anine}$7 –COOH, Cl salt (M) FP-1G6180, 1mg CAS: 1628790-40-8	585.22	750/773	199 000 QY:0.3 CF260:0.022 CF280:0.029	soluble in organic solvents (DMSO, DMF, dichloromethane), low solubility in water 
CY$_{anine}$7 –Di-COOH, Cl salt (M) FP-1G6180, 1mg	685.33	"	"	soluble in organic solvents (DMSO, DMF, dichloromethane), low solubility in water 
CY$_{anine}$7 –Amine, Cl salt (M) FP-SJH920, 1mg CAS: 1650635-41-8, 1650559-73-1 [Cl-]	719.87	"	"	good solubility in DMSO, DMF, alcohols 
CY$_{anine}$7 – NHS, Cl salt (M) FP-JV9770, 1mg FP-JV9772, 25mg FP-JV9774, 100mg	682.29	"	"	. Soluble in organic solvents (DMSO, DMF, dichloromethane), low solubility in water 
CY$_{anine}$7 –Maleimide, Cl salt (M) FP- SJH930, 1mg FP- SJH932, 25mg FP- SJH934, 100mg	707.35	"	"	soluble in organic solvents (DMSO, DMF, dichloromethane), low solubility in water 
CY$_{anine}$7 –Alkyne, Cl salt (M) FP-WZE120, 1mg	622.28 [+586.4]	"	"	Solubility is good in DMSO, DMF, alcohols 
CY$_{anine}$7 –DBCO, PF_6 salt (M) FP-AWHG00, 1mg	885.62 [+849.5]	"	"	Solubility is good in DMF, DMSO, DCM 
CY$_{anine}$7 –Azide, Cl salt (M) FP-1A6270, 1mg & FP-1A6260, 100µl 10mM in DMSO	667.33	750 / 773	199 000	Green powder / solution Soluble in organic solvents (DMSO, DMF, dichloromethane), low solubility in water 
CY$_{anine}$7 – Azide, TFA salt FP-LQV240, 1mg	864.95	749/776		
CY$_{anine}$7 –Hydrazide, Cl salt (M) FP-WZE130, 1mg	635.70 [+544.8]	"	"	Moderate solubility in water, good in polar organic solvents (DMF, DMSO, alcohols) 
CY$_{anine}$7 – Tetrazine (M) FP-AW2NG0, 1mg good solubility in DMF, DMSO, DCM	877.94 [703.4]	"	"	

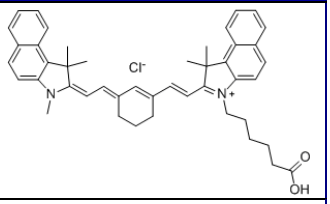
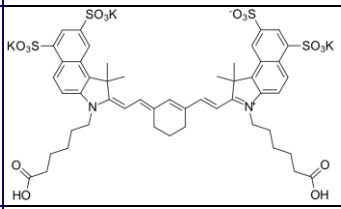
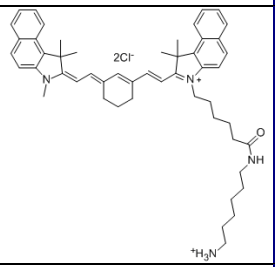
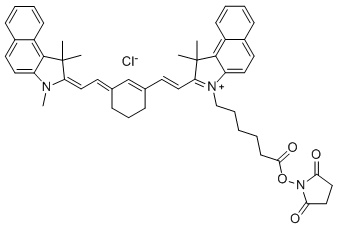
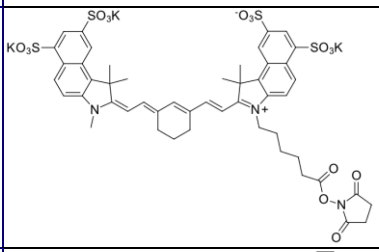
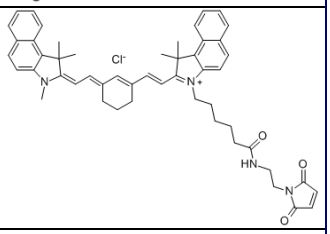
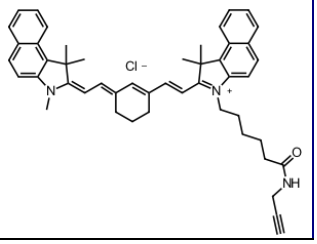
Sulfo-CY$_{anine}$7 derivatives

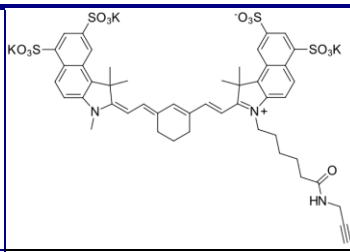
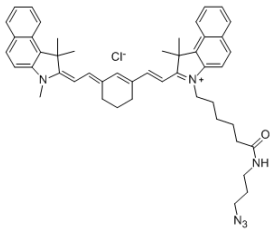
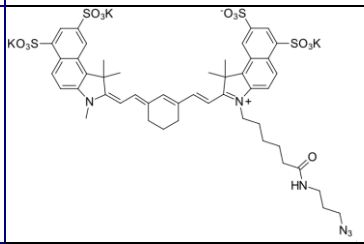
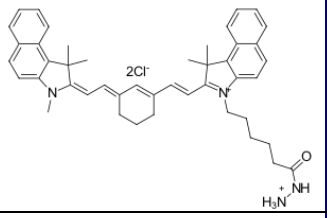
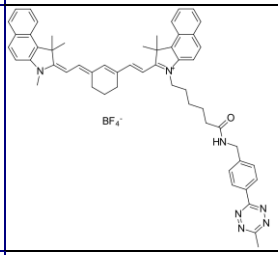
Product name cat.number/qty§	MW g·mol^{-1} (+added MW)	λ abs./em. nm	mol. abs. M^{-1}cm^{-1}	Comment, structure
DiSulfo-CY$_{anine}$7 –COOH (M) FP-1G774, 1mg Also as TFA salt (FP-LQV330) MW:796.87	730.87	750/773	240 600	Soluble in water with organic co-solvent (DMF, DMSO), moderate in alcohols and acetonitrile, insoluble in organic solvents (DCM, chloroform) 
DiSulfo-CY$_{anine}$7 –Amine (M) FP-WZE180, 1mg Also as TFA salt (FP-LQV260) MW : 952.98	807.7	"	"	Solubility is good in water, DMF, DMSO 
DiSulfo-CY$_{anine}$7 – NHS (M) FP-1B000, 1mg Also a Na salt (FP-)	827.93			Solubility is good in water, DMF, DMSO 
DiSulfo-CY$_{anine}$7 – NHS TEA salt (M) FP-LQV140, 1mg	881.11			
DiSulfo-CY7 - NHS, K salt FP-XEQ710, 1mg	818.01	"	"	
DiSulfo-CY7 - bisNHS, K salt FP-XEQ720, 1mg Also as TEA salt (FP-LQV140) MW: 881.11		"	"	
DiSulfo-CY$_{anine}$7 – Maleimide (M) FP-0B8290, 1mg Also as TFA salt (FP-LQV230)  MW: 990.07	869.10 [+868.2]	"	"	Good solubility in water, DMF, DMSO. Low in non-polar organic solvents. 
DiSulfo-CY$_{anine}$7 – Alkyne (M) FP-0B8280, 1mg Also as TFA salt (FP-LQV250) MW: 833.93	784.04 (+745.30)	"	"	Good solubility in DMF, DMSO, significant in water. Soluble in water with organic co-solvent (DMF, DMSO); Insoluble in organic solvents (DCM, chloroform) 
Di-Sulfo-CY$_{anine}$7 – Alkyne, TFA salt FP-LQV250, 1mg	818.91	749 / 776		 (bears 2 Sulfo, 1 Ethyl)
DiSulfo-CY$_{anine}$7 – Azide FP-1H8710, 1mg Also as TFA salt (FP-LQV240) MW: 864.93	812.97 *	750/773nm	"	Solubility is good in water, DMF, DMSO 0B8280

DiSulfo-CY$_{anine}$7 – Azide, TFA salt (M) FP-LQV240, 1mg	864.95	749 / 776		(bears 2 Sulfo, 1 Ethyl) 
DiSulfo-CY$_{anine}$7 – HydrAzide FP-LQV270	924.92			

CY$_{anine}$7.5 dye

● **CY$_{anine}$7.5** is a near infrared red fluorophores used for *in vivo* imaging applications.
Abs./Em.: 788 / 808nm EC: 230 000
Sulfo-Cyanine7.5 is a near infrared fluorescent dye for in vivo imaging. The dye is water soluble and hydrophilic. Its absorption spectrum is very similar to indocyanine green (ICG), but its fluorescence quantum yield is significantly higher. Therefore, it can be used efficiently as an *in vivo* NIR fluorophore
See alternative superior dye: FluoProbes800.

Product name cat.number/qty[§]	**MW** g·mol^{-1} (+added MW)	**λ abs./em.** nm	**mol. abs.** M^{-1}cm^{-1}	Comment, structure
CY$_{anine}$7.5 – COOH, Cl salt (M) FP-1C4380, 1mg CAS: 1686147-68-1, 1803099-44-6 [Cl-]	685.34	788/808	223 000	Soluble in organic solvents (DMSO, DMF, dichloromethane), low solubility in water 
Tetra-Sulfo-CY$_{anine}$7.5–COOH (M) FP-AWHGV0, 1mg	1083.41	778/797	222 000 CF260:0.09 CF280:0.09	Solubility is good in water, DMF, DMSO
Tetra-Sulfo-CY$_{anine}$7.5–Di-COOH (M) FP-AXFBZ0, 1mg Solubility is good in water, DMF, DMSO	1183.51	"	"	
CY$_{anine}$7.5 – Amine, Cl salt (M) FP-1C4400, 1mg	819.99	"	"	Dark green powder Good solubility in DMSO, DMF, alcohols 
CY$_{anine}$7.5 – NHS, Cl salt (M) FP-JO3060, 1mg	782.41 (+630.4)	"	"	Soluble in organic solvents (DMSO, DMF, dichloromethane), low solubility in water 
Tetra-Sulfo-CY$_{anine}$7.5 – NHS, K salt (M) FP-AWHGX0, 1mg FP-AWHGX2, 10mg FP-AWHGX4, 50mg Solubility is good in water	1180.47 (+650.2)	"	"	
CY$_{anine}$7.5 – Maleimide, Cl salt (M) FP-1C4390, 1mg FP-1C4392, 25mg FP-1C4394, 100mg	807.46	"	"	Soluble in organic solvents (DMSO, DMF, dichloromethane), low solubility in water, DMF, DMSO 
CY$_{anine}$7.5 – Alkyne, Cl salt (M) FP-WZE140, 1mg	722.4	"	"	Soluble in organic solvents (DMSO, DMF, dichloromethane), low solubility in water 

Tetra-Sulfo-CY$_{anine}$7.5–Alkyne, K salt (M) FP-AS29QB0, 1mg Solubility is good in water, DMF, DMSO	1120.46 (+1005.2)	778/797	222 000 CF260:0.09 CF280:0.09	
CY$_{anine}$7.5 – Azide, Cl salt (M) FP-1A6300, 1mg FP-1A6302, 10mg FP-1A6300, 100µL 10mM **in DMSO** Soluble in organic solvents (DMSO, DMF, dichloromethane), low solubility in water	767.44	"	"	Soluble in organic solvents (DMSO, DMF, dichloromethane), low solubility in water 
Tetra-Sulfo-CY$_{anine}$7.5–Azide (M) FP-AS29RA, 1mg Solubility is good in water, DMF, DMSO	1165.51 (+1050.3)	"	"	
CY$_{anine}$7.5 – Hydrazide, Cl salt (M) FP-WZE150, 1mg	735.82 [644.4]	"	"	moderate solubility in water, good in polar organic solvents (DMF, DMSO, alcohols) 
CY$_{anine}$7.5 – Tetrazine, BF_4 salt (M) FP-AXFCD0, 1mg moderate solubility in water, good in polar organic solvents (DMF, DMSO, alcohols)	919.9 [802.5]	"	"	
CY$_{anine}$7 – MethylTetrazine (M) FP-AXBJ80, 1mg	1200.43	753/775	255 000 QY:0.16	Soluble in DMSO, DMF, Water, MeOH

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Applications

All CYanine dyes are proposed of labeling biomolecules and subsequent use in fluorimetric assays in a variety of tehcniques (microplate assay, IF Microscopy, FlCM, MicroArray,…). Please ask for any question.

•application notice for fluorescent labeling of proteins to analyze in electrophoresis (2D-gel PAGE).

Other applications include dying stuff, tracing,… in industries like clothes, cosmetics, hydrology, material technologies, … These reagents are for R&D use, not for use in human or animals, therapeutics. Sfety for environment should also be appreciated.

Other Fluorescent dyes

Organic small fluorescent dyes include: FluoProbes, CFdyes, AFdyes, DLdyes,…

• FluoProbes dyes (FP, CY, AF, BDP)

***fluorescent dyes**	**FluoProbes®** [FPstd_]	**CY$_{anine}$ dyes**[FPCY__]	**AF dyes** [FPAF__]	**BrDIPY**[FPBDP_]	**Other labels**
Overview **(Direct Labeling)**	PH-BB052a	PH-BB060c	PH-BB060c	-	CF Dyes[PH] FluoLid[PH] Seta Dyes[PH] IRDyes[PH]
NHSucc.Ester	(BA6800)	(BB7493)	(R08112)	(AWHFC1) & 23383A/FL	
TFP Ester	+				
STP Ester	+				
Maleimide	(BA6810)	(JQ6660)	(820731)		
Hydrazide	(1Q7081)	(LQV050)	(846631)	(AWHFA1) & 85357Aou9	
Azide	(YE4970)	(HO7250)	(AXCJ91)	(AWHF81) &AQANB1	
PicolylAzide			(AYH9B1)		CF Dyes
Labeling Kits	+	(EV0870) 3Dye 2D DI GE (Cy2/Cy3/Cy5) labeling kit			
(Linkers)					
Alkyne	(YE4970)	(1A6320)	(AXCECA)	(AS29U1)	
DBCO	-	(DQP790)	(B432L1)	(B35T42)	
BCN	-				CF Dyes
Tetrazine		(WXS720)		(B35TG0)	CF Dyes
Methyl-Tetraz					
TCO					CF Dyes
Carboxyl	(FH9770)	(CY5CA0)	()	(M1270A) AWHF91	
Amine	(BA6790)	(CY3AM0)	()	(AWHF70)	
AminoOxy		(AWJSC.1)			CF Dyes
Thiol		(1B7350)			
Hydroxyl	-	-	-	-	
Aldehyde					
(Tags, Labels,	+ () NHS () Maleimide	() Azide () Alkyne () Tetrazine	() Amine () Carboxyl () Thiol		
Biotin	() NHS () Maleimide	() Alkyne () Tetrazine	() Amine () Carboxyl () Thiol		
Streptavidin	+				
Avidin	-				
(Dual Tags or	**Label)**	&//Trifunctional			
Biotin & Cyanine	-	Cy5-Biotin-Azide (AXBJ40)			
(Haptens,	**Ligands,**	**Substrats)**			
Phalloidin	+				
Annexin V	+				
Cholesterol	+			(U47711)	
dUTP	+				

Superior FluoProbes fluorescent dyes,
FluoProbes fluorescent dyes are superior fluorescrent dyes in a variety of techniques and applications, thanks to superior phostability and brightness.

See the BioSciences catalogue pages C74>C75-82
FP dyes functionalized by **NHS** (BA6810), **Maleimide** (BA6810), **Azide** (YE4970), **Alkyne** (YE4970), **Hydrazide** (1Q7081), **DBCO** (-), **Amino** (BA6790), **Carboxyl** (FH9770). **Protein labeling kits** ()
i.e. FP390A ; FP405_ ; FP425A ; FP488_ ; FP510X ; FP514A1 ; FP520A ; FP521X ; FP532A ; FP547_ ; FP548_ ; FP549_ ; FP547H ; FP550A ; FP560_ ; FP565A ; FP590_ ; FP590A ; FP594_ ; FP594A ; FP632_ ; FP633A ; FP647H ; FP647N ; FP652_ ; FP654_ ; FP679H ; FP680A ; FP682_ ; FP700A ; FP704_ ; FP749H ; FP778_ ; FP782_ ; FP655L ; FP782_ ; FP655L ; ; FluoProbes XXL(large Stoke's shift)

CY$_{anine}$ dyes

FluoProbes CY$_{anine}$ dyes are very popular series of fluorescent dyes.
See the BioSciences catalogue pages C74>C87-89
functionalized by **NHS** (BB7493), **Maleimide** (JO6660), **Azide** (HO7250), **Alkyne** (1A6320), **Hydrazide** (LQV050), **DBCO** (DQP790), **Amino** (CY3AM0), **Carboxyl** (CY3CA0). **3Dye 2D DI GE (CY2/CY3/CY5) labeling kit** (EV0870)
+

BrDIPY dyes (or FluProbes Neutral dyes, BOron-DIPYrromethène)

FluoProbes BrDIPY Neutral dyes are non charged dyes with sharp absorption and fluorescent emission peaks.
See the BioSciences catalogue pages C74>C82
BrDIPY dyes functionalized by **NHS** (23383A/FL), **Maleimide** (AWHFB1), **Amine** (AWHF70), **Carboxyl** (M1270A)), **Azide** (AWHF81), **DBCO** (B35T42), **Tetrazine** (B35TG0), **Hydrazide** (853579), **Alkyne** (AS29U1), **Cholesterol** (U47711)

AF dyes (equivalent to AlexaFluor™)

AF dyes are generic great dyes for many applications, same molecules to the Alexa Fluor® (a trademark from MolecularProbes, now ThermoFisher).
AF dyes functionalized by **NHS** (R08112), **Maleimide** (820731), **Hydrazide** (846631), **Azide** (AXCJ91), **Alkyne** (AXCECA), **DBCO** (B432L1), **Amine** (), **Carboxyl** ()

• Other Fluorescent Labels:

Classic dyes such as FAM, R110, JOE TAMRA, and ROX.

See the BioSciences catalogue pages C74>C90-92

CF dyes

see PH-BB060b

CF Dyes[PH] are great dyes for many fluorescent applications. See the BioSciences catalogue pages C74>C90-92
CF Dyes[PH] functionalized by **NHS** (AQK200ok), **Maleimide** (820731), **Hydrazide** (AQJ760), **Azide** (IWT530), **Picolyl-Azide** (YQX020), **Alkyne** (IWT590), BCN (PQI250), **Tetrazine** (AYMGEA), **MethyTetrazine** (AQA2I0), TCO (AS2IOA), AminoOxy (FK7610), MTS (1C3400)

mFluor & iFluor Dyes

see PH-BB060m()

mFluor & iFluor[PH] are great dyes for standard fluorescent applications.
Ask Interbiotech for labeling kits

DY dyes

ask Interbiotech

DY dyes are mostly hemicyanine, indocyanine structures.
Ask Interbiotech for availability and equivalent alternatives.

Seta Dyes

see PH-BB060s

Seta Dyes[PH] are great dyes for standard fluorescent applications.
Ask Interbiotech for availability. and equivalent alternatives.

Atto dyes

see PH-BB060a

Atto dyes are great dyes for standard fluorescent applications.
Ask Interbiotech for availability and equivalent alternatives.

IRDyes

ask Interbiotech

IRDyes[PH] are NeaInfraRed dyes, useful for low background in tissue samples and WB.
Ask Interbiotech for availability and equivalent alternatives.

FluoLid

see PH-BB052n

FluoLid[PH] are solid-state fluorescent dyes (also known as quantum dots).
Ask Interbiotech for availability.

Related products

* Coupling agents: EDAC (UP52005A, FP-WU5580)
  Buffers: MES Buffer (14035B)

Ordering information

Catalogue size quantities and prices may be found at http://www.fluoprobes.
For any information, please ask : Fluoprobes / Interchim; Hotline : +33(0)4 70 03 73 06