

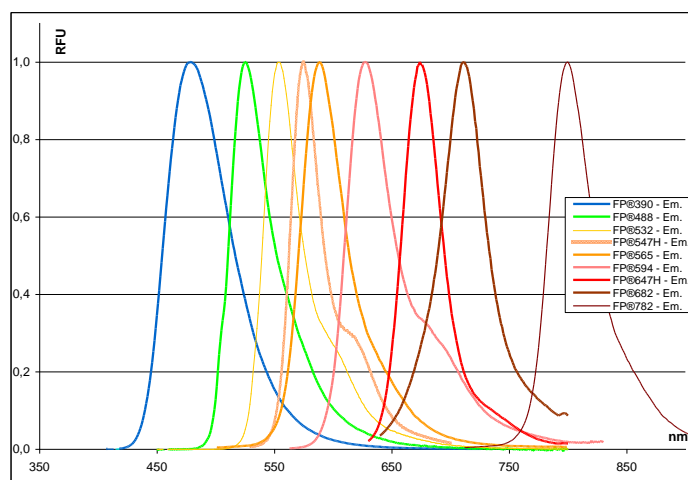
FluoProbes® Labels

Fluoprobes® dyes are designed for labeling biomolecules in advanced fluorescent detection techniques. Applications include multiple labeling, FRET, Quenching, polarisation anisotropy fluorescence, and life time resolved fluorescence, with protein as well as with nucleic acids. Fluoprobes® fluorophores are available as different derivatives for conjugation with conventional chemistry methods. This technical sheet presents the main features of selected standard FluoProbes dyes, that are the most popularly used in fluorescence analysis.

For more information, and information about other FluoProbes labels, please search at www.interchim.com/interchim/customers/ or ask FluoProbes at info@fluoprobes.com.

Great FluoProbes labels

Selected standard FluoProbes® fluorescent labels for labeling biomolecules.



Product name cat.number	MW ‡ (g·mol ⁻¹)	$\lambda_{exc}/\lambda_{em}$ max. (nm)	mol. abs. (M ⁻¹ cm ⁻¹)	Comments (key features – see below for more info)
FluoProbes® 390A	343.4	390 / 479	24 000	<ul style="list-style-type: none"> Bright blue fluorescence Large stock's shift A good alternative to AMCA
FluoProbes® 488	804	493 / 519	85 000	<ul style="list-style-type: none"> Bright green fluorescence, compatible with std filters for FITC/Cy2 Unrivalled stability (photo-stability upon continuous illumination, hence minimal fading, at PHs, for storage...) Superior alternative to FITC, Cy2, A488 Ideal for confocal microscopy, suits also any other techniques
FluoProbes® 532A	765	532 / 553	115 000	<ul style="list-style-type: none"> Compatible with standard filters for A532 Very bright yellow fluorescence Ideal using the frequency-doubled Nd:YAG laser.
FluoProbes® 547H	735.8	557 / 574	150 000	<ul style="list-style-type: none"> Bright orange fluorescence, compatible with standard filters for Cy3, A546, Rhodamine TRITC High brightness
FluoProbes® 565A	611	563 / 592	120 000	<ul style="list-style-type: none"> Bright orange, compatible with standard filters for A568
FluoProbes® 594	1078	591 / 617	92 000	<ul style="list-style-type: none"> Bright red fluorescence, compatible with standard filters for TR Outperforms SR101/TR
FluoProbes® 647H	761.3	653 / 674	250 000	<ul style="list-style-type: none"> Very bright far red fluorescence, compatible with standard filters for Cy5, A647 – outperforms notably in FCM Very high brightness and photostability
FluoProbes® 682	853	690 / 709	140 000	<ul style="list-style-type: none"> Bright IR fluorescence – enhanced solubility Compatible with standard filters for Cy5.5, IRD700, A680
FluoProbes® 752	879	748 / 772	270 000	<ul style="list-style-type: none"> Very bright IR fluorescence Compatible with standard filters for Cy out performs the expensive dye previously used for oligos lab
FluoProbes® 782	976.1	783 / 800	170 000	<ul style="list-style-type: none"> Double negatively charged Soluble in MetOH, EtOH,; DMF, DMSO
Other remarkable FluoProbes labels				FP415 (blue), FP465A (blue/green), FP505 (green/yellow), FP532A (Orange), FP565A(Orangeed), FP594A (far red, XXL), FP@633A(red), FluoProbes® XXL(long stock's shift)

‡: MW of free acid

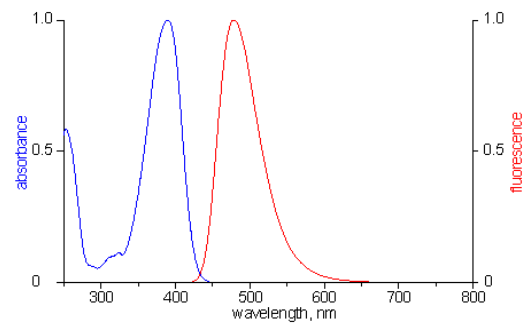
Scientific and technical Information - Labels

Fluoprobes® 390A label :

- **Bright blue fluorescence** ($\lambda_{exc}/\lambda_{em}$: 390 / 479nm)
- excited efficiently in the range 360 - 410 nm, with a maximum at 390nm. A useful excitation source is, e.g. a Mercury Arc Lamp with its lines at 365nm & 405nm, or violet 405 laser.
- good extinction coefficient (ϵ at λ_{max} : 24 000 M⁻¹cm⁻¹) and high quantum yield (QY>90%).
- high stability at physiological pH-values.
- large stokes shift (89nm) reduces background noise caused by scattered light.
- Its NHS-ester and maleimide show excellent solubility in polar solvents like DMF, DMSO or acetonitrile. the dye itself is moderately hydrophilic, that (when coupled) limits occurring of self-quenching, even at high ratios.
- compatible with standard filters for AMCA

Derivative FluoProbes®390A

-COOH	FP-BS5610
-NHS	FP-BS5620
-MAL	FP-BS5630
-HYD	FP-FI3340
-SAV	FP-BM7700
Lab.kit	FP-CG5390



Absorption and emission spectra

As a result, FluoProbes®390 is:

- a **superior alternative to AMCA** ($\lambda_{exc}/\lambda_{em}$: 354/442nm, EC:19 000)
- **ideal for radiography**, but suits also any other microscopy or other fluorescent techniques.

Fluoprobes® labels are available derivatized with a carboxylic group (COOH), an amino group (NH₂), Succinimidyl ester (NHS), Maleimide (MAL), Hydrazide (HYD), streptavidin (SAV), and other functional groups (Alkyne, ...), ligands (phalloidins, ...) as well as protein labeling kits. [Inquire](#)

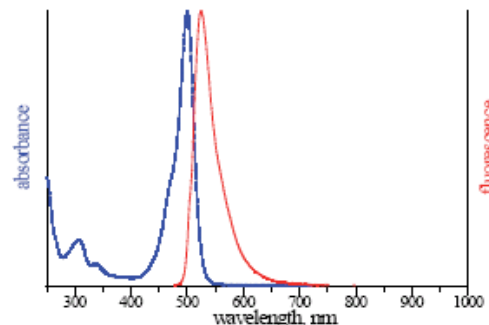
Fluoprobes® 488 label :

- **Bright green fluorescence** ($\lambda_{exc}/\lambda_{em}$: 593 / 519nm): High extinction coefficient (ϵ at λ_{max} : 95 000 M⁻¹cm⁻¹) and quantum yield (QY>80%).
- **Fair hydrophilicity** allows for higher coupling ratios, minimal self-quenching and lower background.
- **pH-independent fluorescence** between pH 4 and 10
- **Ultimate photostability** upon light exposure (see figure): Fading is minimal, longer integration of signal in digital imaging can be achieved allowing to detect low abundance molecules without signal amplification methods; re-analysis of samples remain quantitative; you do not need to use antifading agents or additives (reduce price, time, toxicity)
- **Compatible with standard filters** for FITC/Cy™2...
- **Excited by Argon488 blue-green laser**

Derivative FluoProbes®488

-COOH	FP-BA6790
-NHS	FP-BA6800
-MAL	FP-BA6810
-HYDR	FP-B38820
-SAV	FP-BA2221
-Label.kit	FP-BE3750

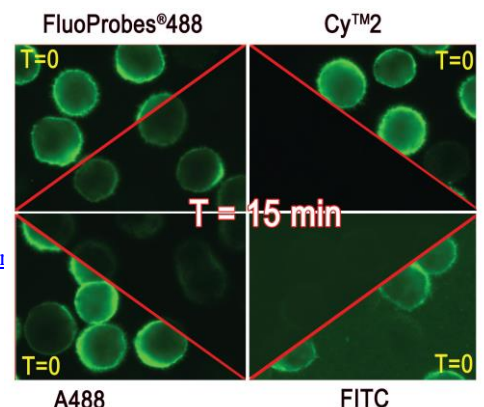
[Inquire](#) for conjugates (II Antibodies, Annexin V,...)



- FP® 488 is brighter and much more photostable than FITC, Cy2 and others. FP488 is the most photostable of any tested dye, incl. A488.
- FP® 488 is **ideal for confocal microscopy**, but suits also any other microscopy or technique including microplate readers and FCM.

[Superior photostability:](#)

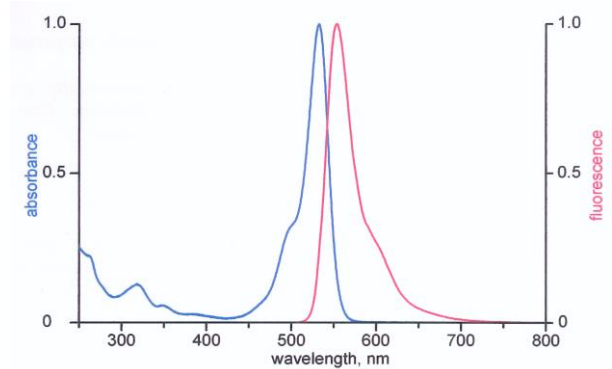
[More information](#)



FT-FPstd_(StandardSelectedFluoProbesLabels)

Fluoprobes® 532A label :

- **very bright orange fluorescence**
($\lambda_{exc.}/\lambda_{em.}$: 532 / 553nm; EC: 115 000; QY:90%)
excited most efficiently in the range 515 - 545 nm, i.e. by the 532nm line of the frequency-doubled Nd:YAG laser. Excellent extinction coefficient and quantum yield.
- Excellent water solubility
- Net electrical charge of -1
- Compatible with standard filters for A532



Absorption and emission spectra (in water)

[More information](#)

Derivative FluoProbes®532A

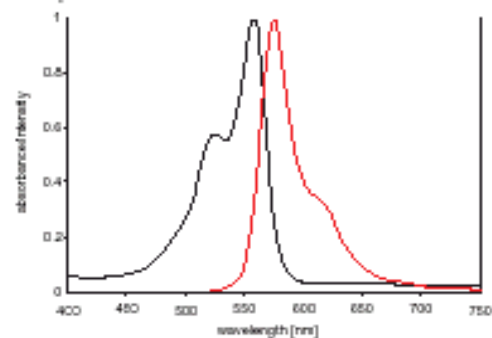
-COOH	FP-BA6940
-NHS	FP-BA6950
-MAL	FP-BA6950
-HYDR	FP-BA6960
-SAV	FP-CA5590

Fluoprobes® labels are available derivatized with a carboxylic group (COOH), an amino group (NH₂), Succinimidyl ester (NHS), Maleimide (MAL), Hydrazide (HYD), streptavidin (SAV), and other functional groups (Alkyne, ...), ligands (phalloidins, ...) as well as protein labeling kits. [Inquire](#)

Fluoprobes® 547H label :

- **Bright orange-red fluorescence**
($\lambda_{exc.}/\lambda_{em.}$: 557 / 574nm)
- High brightness,
FP®547H shows elevated extinction coefficient and can usually be coupled at high ratios without quenching. One achieve higher signal and lower background than with other standard orange fluorophores (TMR, A546), and reduce the fading observed in some applications with Rhodamine TRITC, Cy3 labels.
- pH-independent fluorescence and photostable
- Compatible with standard filters for TRITC/CyTM3...
- Net negatively charged, and good solubility in water*

Absorption/Emission of FluoProbes®-547



As a result, FluoProbes®547H is:

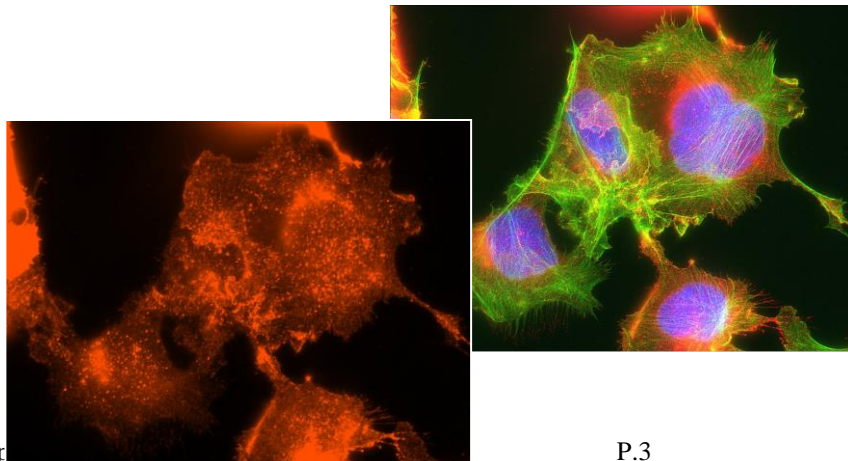
- a **superior alternative to TRITC fluorophores, Cy3 and A555/546.**
- It suits **any fluorescent techniques**: microscopy fluorescence (including confocal microscopy), microplate and microarray assays, FCM...

[More information](#)

Derivative	FluoProbes®547H	FluoProbes®547*
-COOH	FP-BX5020	FP-BA3460
-NH ₂	FP-BX5030	FP-BA3470
-NHS	FP-BX8920	FP-AK7730
-MAL	FP-CB1000	FP-BA3480
-SAV	FP-CA5570	FP-AX1460
label.kit	FP-BZ9600	FP-BC0900
-	...	

*FluoProbes547H is also available as a more polar and less hydrophilic version, the original [FP547](#) dye.

[Superior brightness and photostability](#) (to Cy3, A546/555)
[Great 3-color imaging](#) (Hoechst, FP488, FP547H):



Info@fluoprobes.com
Technical-support@fluoprobes.com
Order-online@fluoprobes.com

Contact your local distributor

FluoProbes®, interchim

213 Avenue J.F. Kennedy - BP 1140
03103 Montluçon Cedex - France
Tél. 04 70 03 88 55 - Fax 04 70 03 82 60

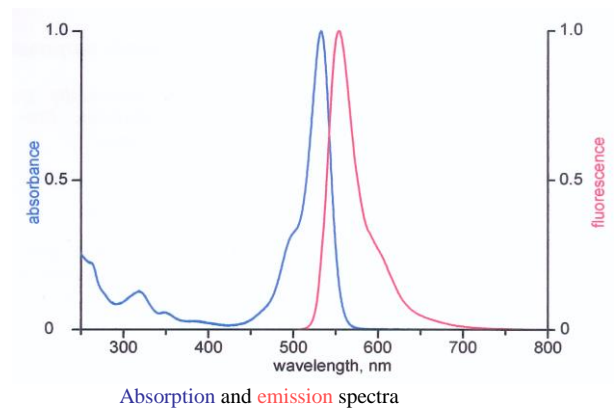
Fluoprobes® 565A label :

- **very bright red fluorescence**
($\lambda_{exc.}/\lambda_{em.}$: 563 / 592nm; EC: 120 000; QY:90%)
- **photostable** (much superior to Cy3)
- compatible with TR filters
- Net electrical charge of -1

[More information](#)

Derivative FluoProbes®565A

-COOH	FP-BA7030
-NHS	FP-BA7040
-MAL	FP-BA7050
-SAV	FP-CA5610



Fluoprobes® labels are available derivatized with a carboxylic group (COOH), an amino group (NH₂), Succinimidyl ester (NHS), Maleimide (MAL), Hydrazide (HYD), streptavidin (SAV), and other functional groups (Alkyne, ...), ligands (phalloidins, ...) as well as protein labeling kits. [Inquire](#)

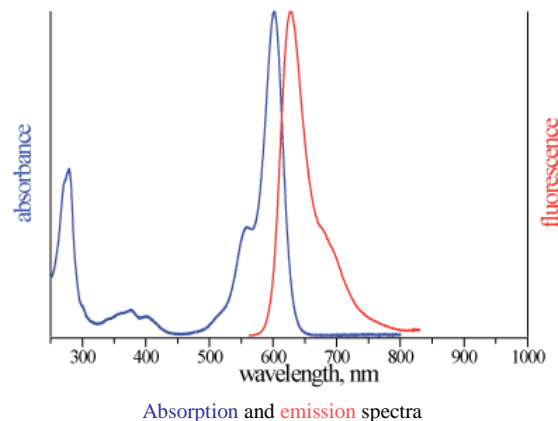
Fluoprobes® 594 label :

- **bright dark red fluorescence**
($\lambda_{exc.}/\lambda_{em.}$: 591/617nm; EC: 92 000)
- FP594 is soluble in water, methanol, DMF
- FP594 is excited optimally at 591 nm.
- FP594 emits optimally at 617nm, compatible with standard filters for TR

[More information](#)

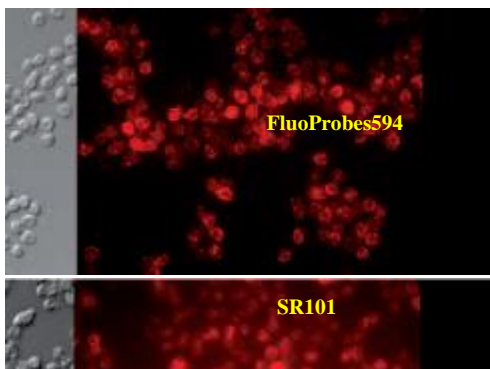
Derivative FluoProbes®594

-COOH	FP-FO7600
-NH ₂	FP-FO7590
-NHS	FP-FO3340
-TFP	FP-DY2610
-MAL	FP-FJ0800
-HYD	FP-FJ0800
-SAV	FP-FV8180
- ...	



FluoProbes®594A is

- a **superior alternative to TR**
- (SulfoRhodamine101: 595-605/615nm, FP-83766A)
- suits any fluorescence technique (microarrays, microscopy, FCM, ...).

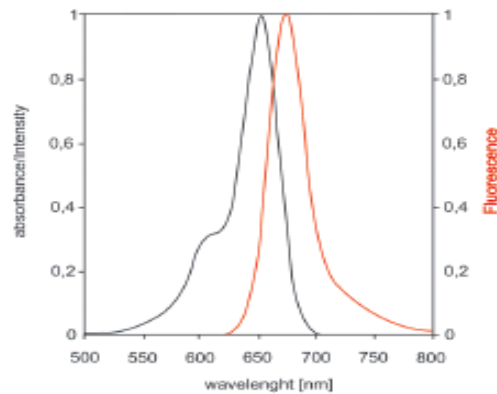


Anti CD59 labeled RBCs immunotaining, with controls by phase contrast (left) and IF without primary antibody (right)
FluoProbes594 (upper) shows brighter signal with lower background than TR (SulfoRhodamine101).

FT-FPstd_(StandardSelectedFluoProbesLabels)

Fluoprobes® 647H label :

- **Bright Far Red fluorescence**
($\lambda_{exc.}/\lambda_{em.}$: 653 / 674nm; EC: 250 000)
- **High brightness:**
FP®647 shows elevated extinction coefficient and can usually be coupled at high ratios without quenching. One achieve higher signal and lower background than with other standard red fluorophores (Cy5), and reduce the fading observed in some applications.
- pH-independent fluorescence and photostable
- Compatible with standard filters for Cy™5, A647...
- Net negatively charged, and good solubility in water*
- Can be combined in **multiplex** with FP488, FP547H
Can be combined in **tandem** with **Cy7** ($\lambda_{ex.}/\lambda_{em.}$: 488/782nm) and in **tandem** with **APC** (ex./em.: 595-640/782nm)



As a result, FluoProbes®647H is:

- a **superior alternative to TMR fluorophores, Cy5 and A647.**
- It suits **any fluorescent techniques:** microscopy fluorescence, microplate and microarray assays, FCM...

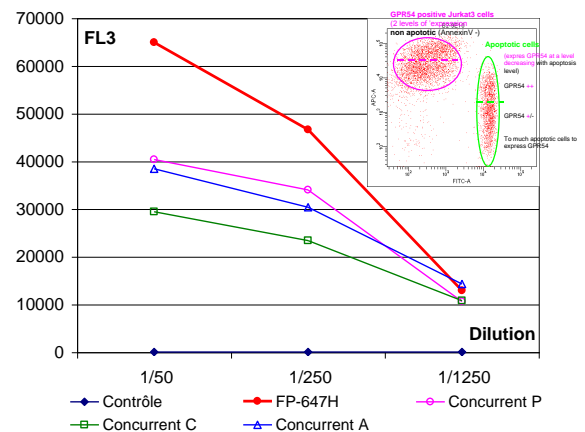
More information

FluoProbes547H is available with many derivatisations*

Derivative	FluoProbes®647H	FluoProbes®647*
-COOH	FP-CD9830	FP-BA3830
-NH ₂	FP-BX5040	FP-BA3840
-NHS	FP-BZ8810	FP-AK7740
-MAL	FP-CB1010	FP-AZ5280
-HYD		FP-BP5530
-SAV	FP-CA5640	FP-BA1270
Lab.Kit	FP-BZ9610	FP-BA0310

* FP647H is also available as a more polar and less hydrophilic version, the original [FP647](#) dye.

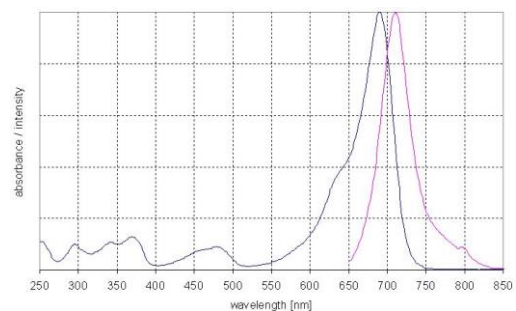
Superior brightness and photostability (to Cy5, A647)



Fluoprobes® 682 label :

- **Bright IR solid state fluorescences**
($\lambda_{exc.}/\lambda_{em.}$: 690/709nm; EC: 140 000)
- Hig molar extinction ($140\ 000\text{M}^{-1}\text{cm}^{-1}$)
- Soluble in water, methanol, DMF, DMSO
- Spectral similar to Cy 5.5, IRD 700 and A680
- Negatively charged -2^* , and highly water soluble
- Enhanced water solubility and polarity

Derivative	FluoProbes®682
-COOH	FP-BV0900
-NHS	FP-BV0910
-NHS	FP-BE6200
-MAL	FP-BV8230
-HYDR	FP-CE0640
-SAV	FP-CA5590
-Prot.LabKit	FP-BE8260
- ...	



Absorption and emission spectra

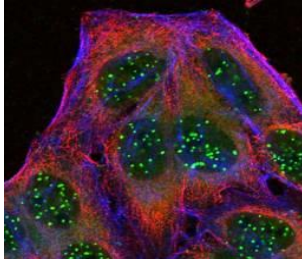
More information

*Also available as a derivative with a single negative charge [FluoProbes681](#) and un-charged [FluoProbes680](#).

FT-FPstd_(StandardSelectedFluoProbesLabels)

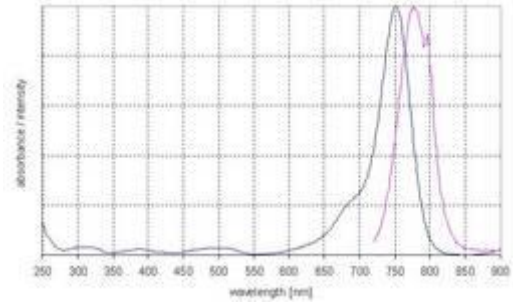
Fluoprobes®752 label :

- **Very bright Infra-Red fluorescence**
($\lambda_{exc.}/\lambda_{em.}$: 748 / 772nm; EC: 270 000)
- Negatively charged -2, and highly water soluble
- High brightness
- Compatible with standard filters for Cy 7...



[More information](#)

*also available as a single negative charge version ([FP751](#)) and no charge ([FP750](#)).



Derivative	FluoProbes752	FP751	FP750
-COOH	FP-IS2780	FP-BA4290	FP-BA4250
-NH ₂	FP-IS2800	FP-BA4300	FP-BA4270
-NHS	FP-BF6570	FP-AZ3520	FP-BA4260
-MAL	FP-IS3010	FP-BA4310	FP-AB4280
-Lab.kit	Inquire	FP-CG5400	

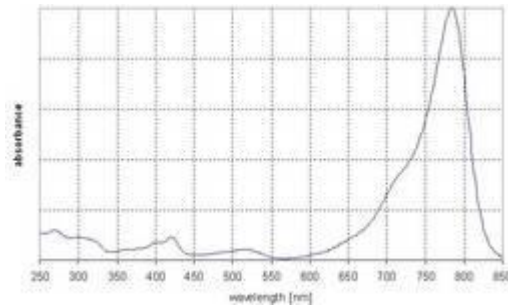
Fluoprobes®782 label :

- **bright IR fluorescence**
($\lambda_{exc.}/\lambda_{em.}$: 738 / 800nm; EC: 170 000)
- Soluble in methanol, ethanol, DMF, DMSO
- Double negatively charged *
- Has been used combined to FP680 for 2D-DIGE

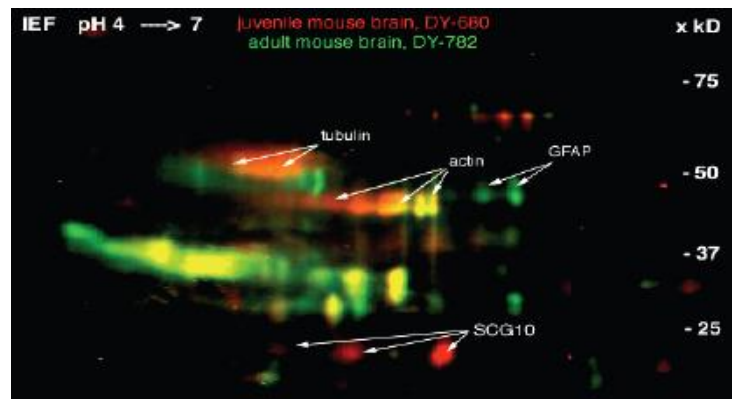
Derivative	FluoProbes®782	FP781
-COOH	FP-BA4400	
-NH ₂	FP-BA4410	
-NHS	FP-AY6590	
-MAL	FP-BA4420	
-Lab.kit	FP-CA6070	

*also available as a single negative charge version, [FP781](#)

[More information](#)



Absorption spectrum



Scientific and technical Information – Derivates/coupling

Fluoprobes® labels are available as different derivatives, suiting standard chemistry methods (seek in the literature the right conjugation strategy for your application), and others (dyeing materials,...):

Carboxylic derivatives can be used for any kind of spectroscopy, and coupled to biomolecules by conventional chemistry, i.e. after activation at the carboxy group by EDC. Carboxylic derivatives are stored at ambient temperature and is stable for at least three years.

Amine derivatives can be used for any kind of spectroscopy, and coupled to biomolecules by conventional chemistry, i.e. by reaction with aldehydes, or with carboxyls by amidation mediated with EDC. Amine derivatives are stored at ambient temperature and is stable for at least three years.

NHS-ester derivatives are suited for direct labeling of amino groups in proteins and aminated DNA/RNA. The chemical group N-hydroxysuccinimidyl (NHS) reacts optimally at neutral pH or higher in aqueous phase on primary (-NH₂) and secondary amines (-NH-) (in fact on its deprotonated form): i.e. amines present in proteins (Lys aminoacid) and in a lower proportion on NH₂ located in terminal peptidic chains. The reaction competes with hydrolysis that increases with pH, and with the high dilutions of the molecule that should be labeled. Please refer to the literature, or the technical sheet [FT-BA6800](#) (NHS-FluoProbes labels) for a standard protein coupling protocol. NHS-esters should be stored at 0-4°C protected from moisture, and is stable for at least one year (-20°C for long term).

Maleimide derivatives are suited for labeling of thiol groups of proteins or other molecules, e.g. specific labeling of cysteine. Please refer to the literature, or the technical sheet [FT-BA6810](#) (Maleimide-FluoProbes labels) for a standard protein coupling protocol. Maleimide derivatives should be stored at 0-4°C and are stable for at least one year (or RT/short term, or -20°C/long term).

Hydrazide derivatives are suited for labeling of biomolecules. Please refer to the literature, or the technical sheet [FT-BA38820](#) (Hydrazide-FluoProbes labels) for a standard protein coupling protocol. Hydrazide derivatives should be stored at 0-4°C and are stable for at least one year (or RT/short term, or -20°C/long term).

You also may ask FluoProbes for labeling kits, several already prepared conjugates such as Streptavidin, antibodies and some specific probes (i.e. AnnexinV-FP488), and custom labeling.

Other remarkable FluoProbes labels

Product name cat.number	MW [£] (g·mol ⁻¹)	$\lambda_{exc}/\lambda_{em}$. max. (nm)	mol. abs. (M ⁻¹ cm ⁻¹)	Comments
FluoProbes® 415	573.6	418 / 467	34 000	<ul style="list-style-type: none"> A good blue dye, alternative to DAEC/AMCA More information
FluoProbes® 465A	492.9	453 / 508	75 000	<ul style="list-style-type: none"> A good blue/vert dye More information
FluoProbes® 505	566.1	505 / 530	80 000	<ul style="list-style-type: none"> Green/Yellow. A good alternative to RhodamineGreen, FITC, Cy2 More information
FluoProbes® 532A	646	532 / 553	115 000	<ul style="list-style-type: none"> Yellow. A good alternative to A532. Excitable at 515 - 545 nm (<u>YAG</u>) More information
FluoProbes® 565A	708.1	563 / 553	115 000	<ul style="list-style-type: none"> Orange/red. A good alternative to Bodypi568 & more photostable than Cy5. More information
FluoProbes® 590A	788.3	594 / 624	120 000	<ul style="list-style-type: none"> Red. A good alternative to TR/SR101/A594 More information
FluoProbes® 594A	1389	601 / 627	120 000	<ul style="list-style-type: none"> Red. A superior Alternative to TR/SR101/A594 More information
FluoProbes® 633A	848.0	637 / 657	200 000	<ul style="list-style-type: none"> Red. A good alternative to A633, A647 More information
FluoProbes® 680A		680 / 700	125 000	<ul style="list-style-type: none"> Far Red/IR. Alternative to Cy™ 5.5 More information
FluoProbes® XXL (long stock's shift)				<ul style="list-style-type: none"> Extra long stock's shift – up 5 dyes can be used with one light source More information (FP480XXL, 481XXL, 510XXL, 520XXL, 521XXL)
And much more!				<ul style="list-style-type: none"> list of FluoProbes dyes NHS esters

£: MW of NHS ester

[NT-FPcompa](#) Compatible light sources (excitation) and filters (emission) for FluoProbes labels.

Ordering information

Search all products at www.interchim.com/interchim/customers/

Please inquire for higher quantities (availability, shipment conditions).

For any information, please ask : FluoProbes® / Interchim; Hotline : +33(0)4 70 03 73 06

Disclaimer : Materials from FluoProbes® are sold **for research use only**, and are not intended for food, drug, household, or cosmetic use. FluoProbes® is not liable for any damage resulting from handling or contact with this product.

FluoProbes® is a registered trademark from Interchim

Cy™ is a registered trademark from Amersham Biosciences Corp.

Rev.I11E-H11E-H03E