

## FluoProbes® 390A labeling agents

### Product Information

A great fluorophore for labeling biomolecules with fluorescent blue emission (alternative to AMCA)

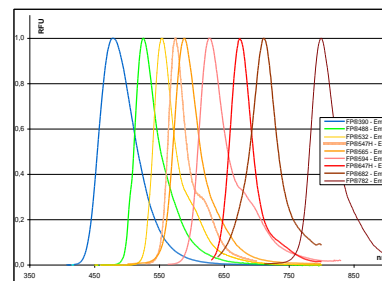
cat.number	MW (g·mol <sup>-1</sup> )	$\lambda_{exc}/\lambda_{em}$ max. (nm)	mol. abs. (M <sup>-1</sup> cm <sup>-1</sup> )	Quantum yield (%)
<b>Fluoprobes® 390A Carboxyl group</b> (L) FP-BS5610, 1mg	343.4	390 / 479	24 000	90
<b>Fluoprobes® 390A NHS</b> (M) FP-BS5620, 1mg	440.5	$\eta_{fl} = 90\%$ $\tau_{fl} = 3.8\text{ ns}$ CF260 = 0.52 CF280 = 0.08 • A good alternative to AMCA • Bright blue fluorescence • Large stock's shift		
<b>Fluoprobes® 390A Maleimide</b> (M) FP-BS5630, 1mg	465.6			
<b>Fluoprobes® 390A Hydrazone</b> (M) FP-FI3340, 1mg	465.6			
<b>Fluoprobes® 390A Alkyne</b> FP-1H8460, 1mg				
<b>Fluoprobes® 390A – Protein Lab.Kit</b> (V) FP-CG5390, 1kit (5 runs)	-			
<b>Other Fluoprobes® 390A products</b> See <a href="#">related products</a>				

**Storage:** (L): at +4°C (K): at +4°C, long term at -20°C (M): at -20°C

Fluoprobes® 390A is the most popularly blue emitter fluorescent label, part our the **Fluoprobes® dyes series**, alternative to AMCA.

**Fluoprobes®** provide a full range of fluorophores to covers any applications, spanning from 390nm to 800nm. Fluoprobes® dyes are designed for labeling biomolecules in advanced fluorescence detection techniques. Applications include multiple labeling, FRET, Quenching, polarisation anisotropy fluorescence, and life time resolved fluorescence, with protein as well as with nucleic acids, as well as dyeing materials.

Please see a presentation of [selected most popular and remarkable FluoProbes labels](#) in standard applications (i.e. blue, green, orange, red, infrared), and more in the [BioSciences catalogue](#), and [updated list of FluoProbes dyes NHS esters](#).

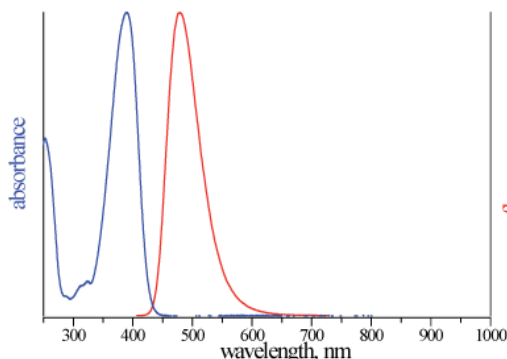


### Scientific and technical Information - Label

**Fluoprobes® 390A label offers bright blue fluorescence**

( $\lambda_{exc}/\lambda_{em}$ : 390/479nm)

- can be 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 ( $\epsilon$  at  $\lambda_{max}$ : 24 000 M<sup>-1</sup>cm<sup>-1</sup>) 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.



As a result, FluoProbes® 390A is:  
 -a **superior alternative to AMCA** ( $\lambda_{exc}/\lambda_{em}$ : 354/442nm, EC:19000)  
 -**ideal for radiography**, but suits also any

[Info@fluoprobes.com](mailto:Info@fluoprobes.com)  
[Technical-support@fluoprobes.com](mailto:Technical-support@fluoprobes.com)  
[Order-online@fluoprobes.com](mailto:Order-online@fluoprobes.com)

Contact your local distributor

FluoProbes®, powered by



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

FT-FP390A

- compatible with standard filters for AMCA

other microscopy or other fluorescent technique.

Structure on request

## Scientific and technical Information - derivatives

Fluoprobes® 390A is available as different derivatives, suiting standard chemistry methods, and others:

### Storage and General uses

**Carboxylic derivatives** are 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 are 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 specifically with primary (-NH<sub>2</sub>) and secondary amines (-NH-) (in fact on its deprotonated form) in aqueous phase or at pH 8 (compatible with pH7 to 10) in PBS buffer (other buffer devoid of amines are possible) at a ratio of 1-6 over amine content. I.e. amines present in proteins (Lys aminoacid) and in a lower proportion on NH<sub>2</sub> 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-BA680](#) (NHS-FluoProbes labels) for standard protocols.

NHS-esters can be stored at 0-4°C, stable for several months, or at -20°C for long term. They should be protected from moisture and light.

**Maleimide derivatives** are suited for labeling of thiol groups of proteins or other molecules, e.g. specific labeling of cysteine.

The maleimide group reacts very specifically with sulfhydryls -SH at neutral pH 6.5-7. The reaction is rapid (a few minutes for cysteine), but in the absence of -SH, maleimide stay well stable. In usual conditions, one should start with a ratio of 10-20 moles of maleimide per mole of protein. Please refer to the literature, or the technical sheet [FT-BA681](#) (Maleimide-FluoProbes labels) for standard protocols.

Maleimide derivatives can be stored at 0-4°C, stable for several months, or at -20°C for long term. They should be protected from moisture and light.

**Hydrazide derivatives** are suited for labeling of biomolecules. Please refer to the literature, or the technical sheet FT-B3882 (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 (at room temperature for short term, or at -20°C for long term).

You also may ask **Protein labeling kits**, already prepared **Fluoprobes conjugates** (see related products), and **custom labeling**.

### Standard protocols (\*)

Protocol 1 : **antibody labeling with NHS ester**

See the technical sheet FT-BA6800. This simple and quick standard protocol labels polyclonal and monoclonal purified antibodies for immunodetection applications. It suits also most proteins and peptides (\*).

Protocol 2 : **Incorporation of aa-dUTP by Reverse Transcription**

See the technical sheet FT-BA68000. AminoAllyl-UTP (aa-UTP) is incorporated in nucleic acids using a DNA polymerase (PCR, Nick translation) for subsequent labeling by NHS-FluoProbes® dye.

Protocol 3 – **protein labeling with maleimide**

See the technical sheet FT-BA68100. Fluoprobes® dye maleimide is suited for labeling of proteins at cysteine sites.

(\*)A calibration of dye/biomolecule ratio may be needed to optimize the labeling level depending on molecule and application, i.e. adjust concentration weight of the FluoProbes® dye / weight of protein or peptide. Then the parameters of the detection instrument should also be set properly for FluoProbes dye (see above/label).

### Related products

Streptavidin-FP390A FP-BM7700

Biotin-FP390A FP-BS5640

dCTP-FP390A FP-IM4120

Aminoallyl-dUTP-FP390A (1mM) FP-IM1030

Phalloidin-FP390A FP-YE5160

Aminoallyl-UTP-FP390A (1mM) FP-IL7570

[Complete list of FluoProbes dyes NHS esters](http://www.interchim.fr/ft/F/FPlistN.pdf) at <http://www.interchim.fr/ft/F/FPlistN.pdf>.

## Ordering information

Catalog size quantities and prices may be found at <http://www.interchim.com>

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

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

[Info@fluoprobes.com](mailto:Info@fluoprobes.com)

[Technical-support@fluoprobes.com](mailto:Technical-support@fluoprobes.com)

[Order-online@fluoprobes.com](mailto:Order-online@fluoprobes.com)

Contact your local distributor

FluoProbes®, powered by



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

FT-FP390A

**Disclaimer :** Materials from FluoProbes® are sold **for research use only**. Please consult FluoProbes for other uses.  
FluoProbes® is not liable for any damage resulting from handling or contact with this product.

Rev. R06E J11E-H07E-H04E/01

[Info@fluoprobes.com](mailto:Info@fluoprobes.com)  
[Technical-support@fluoprobes.com](mailto:Technical-support@fluoprobes.com)  
[Order-online@fluoprobes.com](http://Order-online@fluoprobes.com)

Contact your local distributor

FluoProbes®, powered by



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