



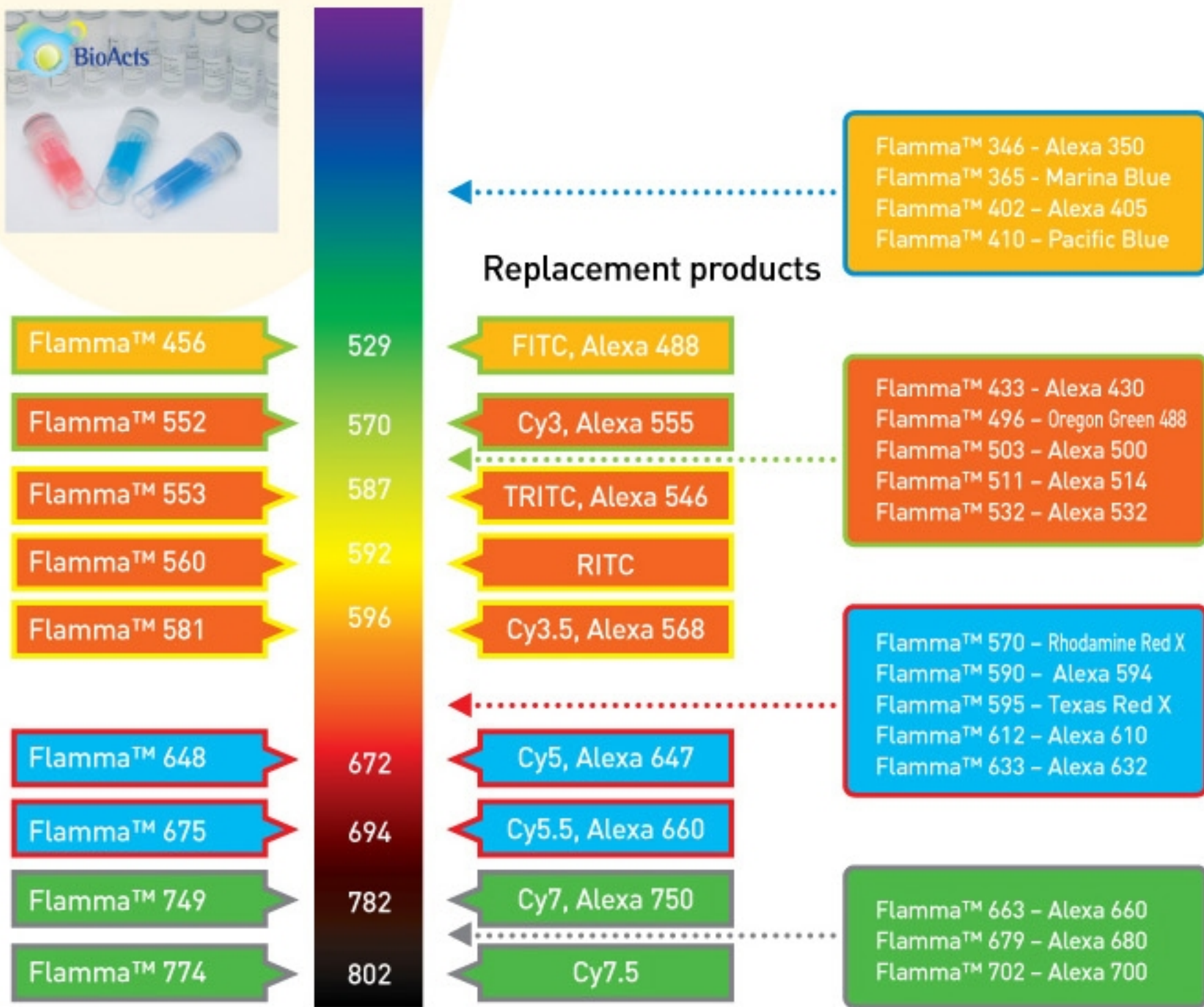
BioActs

Flamma™ Fluors



Flamma™ Fluors

Flamma™ Fluors are the best choice to perform molecular imaging in your laboratory

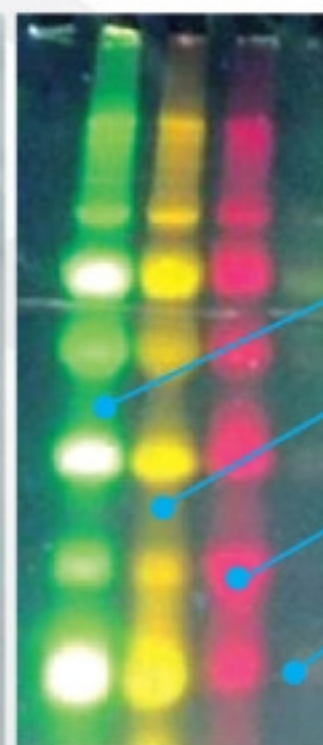
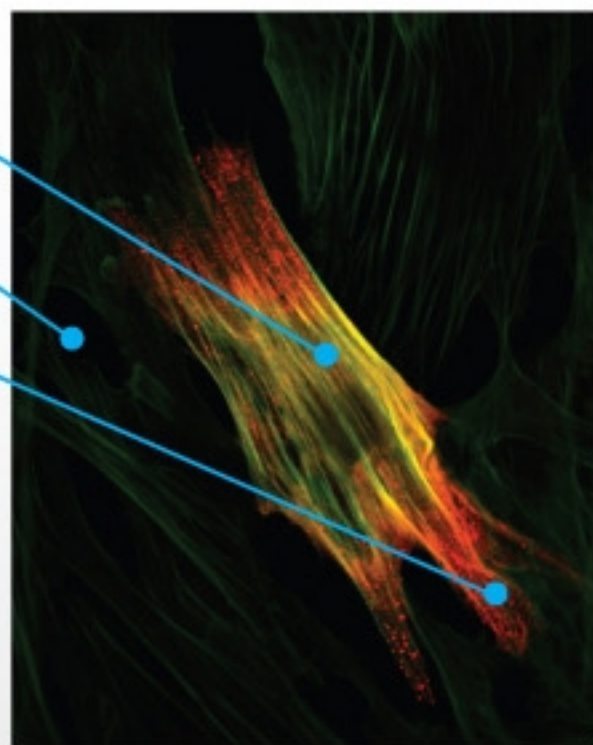


*Available in early 2010

FPR-553

FPG-456

FPR-648



FPG-456

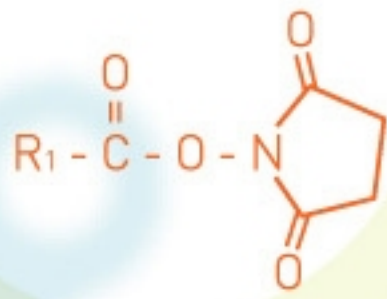
FPR-552

FPR-648

FPI-749

Our New Reactive Hands

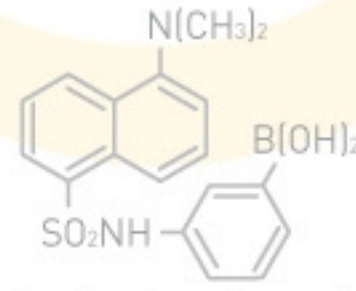
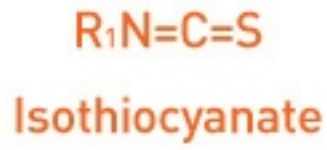
- Flamma™ P Series
- Stable & reactive in aqueous solutions
- Reactive with Amine, Thiol, Hydroxyl Groups



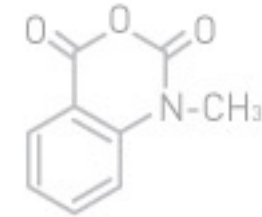
Succinimidyl Ester



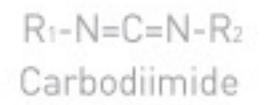
Sulfonyl Chloride



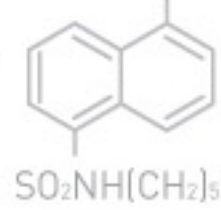
m-dansylaminophenylboronic acid



Methylisatoic anhydride



Carbodiimide



(H₂C)₃NH(H₃C)₂-N=C=N-CH₂CH₃

Fluorophores

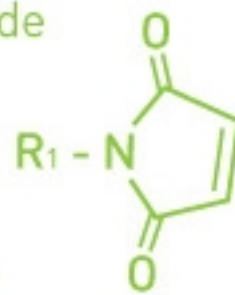
- Cyanine, Rhodamine, Fluorescein, etc.

Reactive Groups

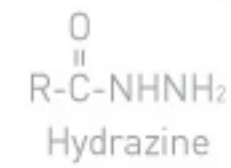
- NHS, Maleimide, Isothiocyanate, etc.



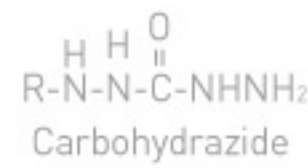
Alkyl halide or
Haloacetamide
(X=I, Br, Cl)



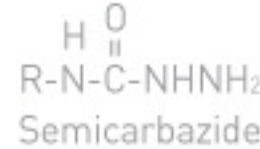
Maleimide



Hydrazine



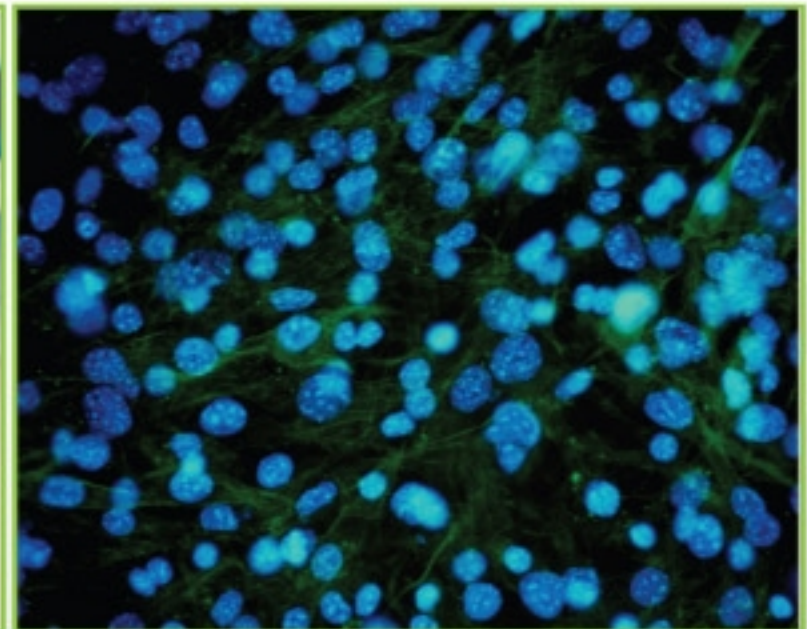
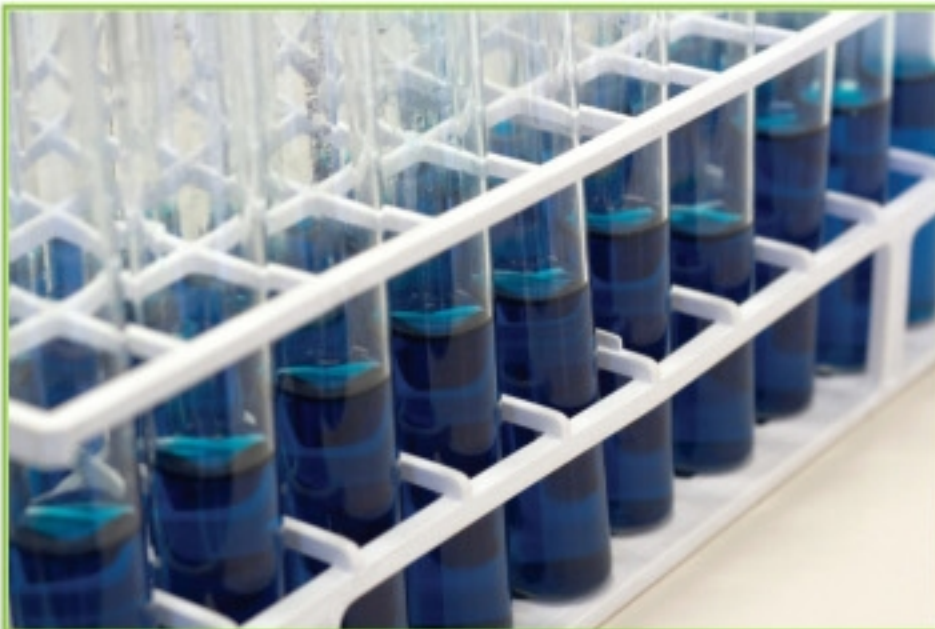
Carbohydrazide



Semicarbazide

Free Acid (Carboxylic Acid)

- Flamma™ C Series
- Labeling Kit with Binding Protocol (NHS, Maleimide)

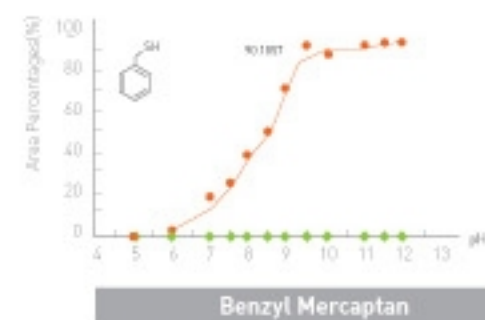
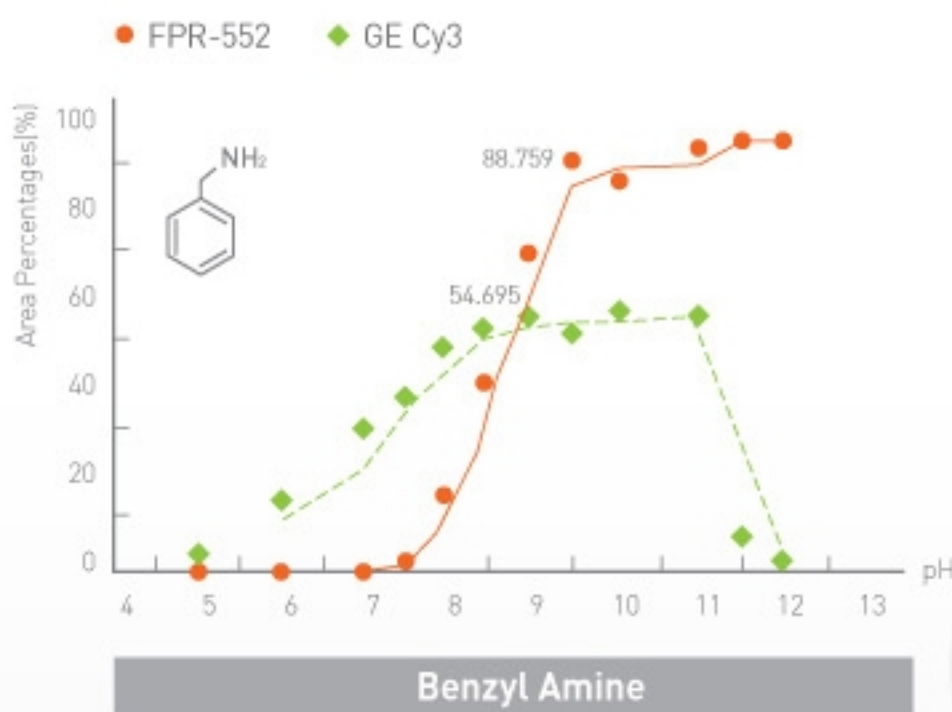


Flamma™ P Series

Flamma™ P Series are highly reactive and stable pre-activated fluorescent dyes. Their unique reactive group enables fast conjugation with most of biomolecules such as proteins, sugars, antibodies, nucleotides, and etc by targeting amino, hydroxyl, and thiol groups without leaving by-products behind. These fluorescent molecules are very stable in a wide range of light, pH, and temperature, and extremely active/stable in aqueous solutions, so that researchers can efficiently use them for long-term experiments. Flamma™ P Series can easily replace commonly used fluorescent dyes with NHS or maleimide without changing your experiment protocols.

- Stable & reactive in aqueous solutions

- Wide range of binding targets

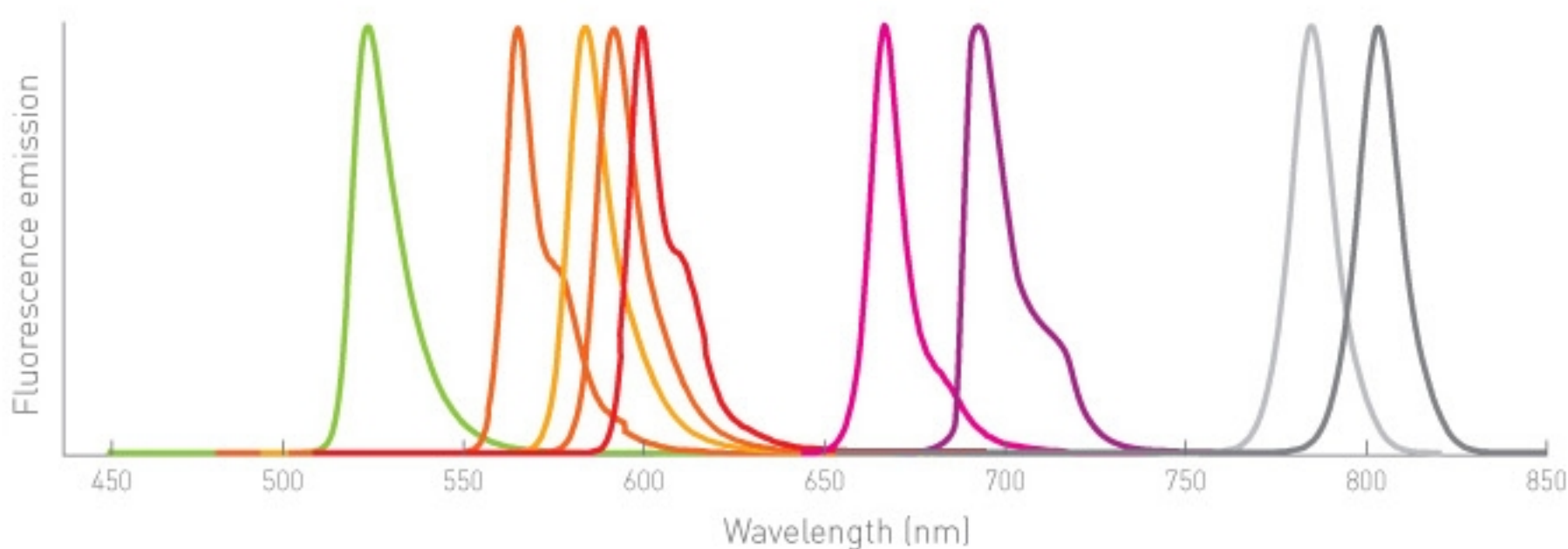


- no by-product generated
- Temperature stable

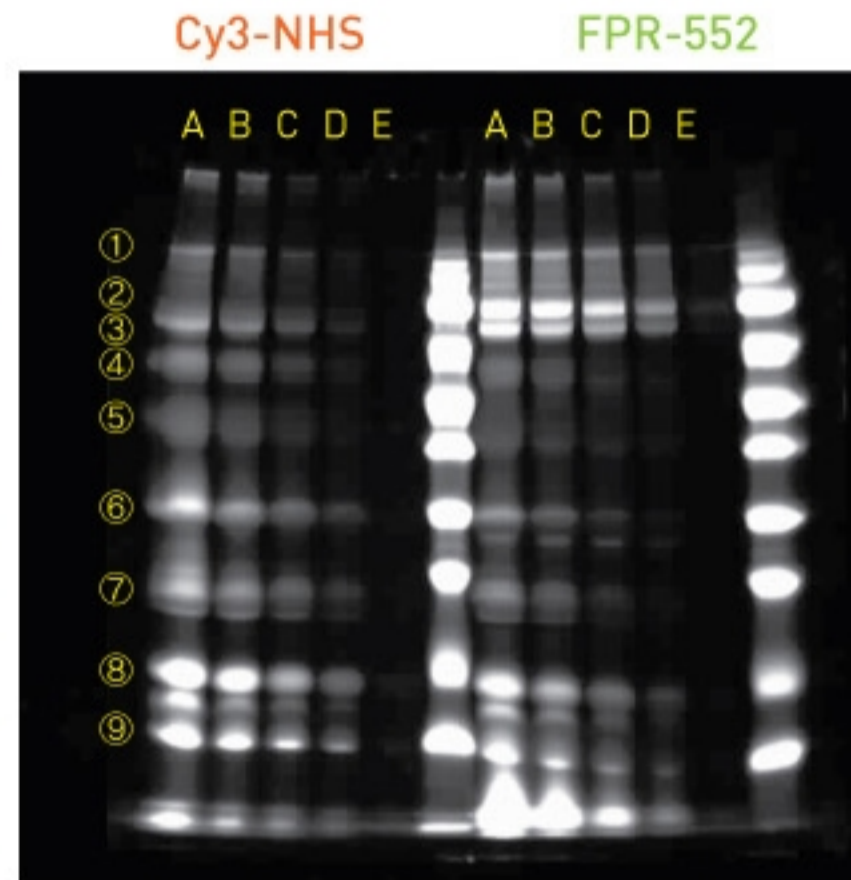
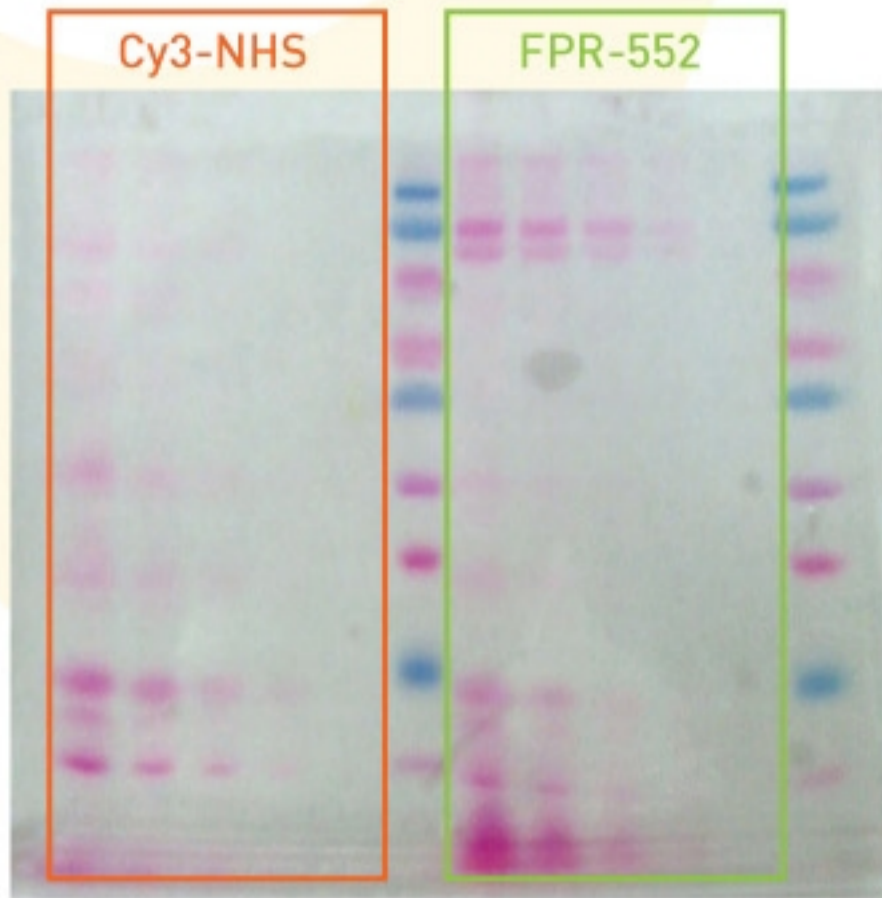
- pH stable
- High purity

Usage

- Product Solubility: Flamma™ P Series can be dissolved in DMF, H₂O, phosphate/carbonate buffers, and various biological buffers.
- Buffer containing alcohols are not recommended to be used with these products to avoid reduced validity period.
- Conjugation with biomolecules including amino-, thiol-, and hydroxyl- groups, and/or the nano-organic compounds is possible.
- Room temperature storage is possible, however it is recommended to store at 2-8°C when dissolved in solvents.
- Long-term storage is possible when dissolved in DMF or DMSO (1mg Flamma™ / 100µL DMF or DMSO).
- Highly reactive in a pH range from 6 to 8 (pH9 is recommended)



Binding Protocol



Takara Protein

- ① Myosin (200 k)
- ② β -galactosidase (116 k)
- ③ Phosphorylase B (97.2 k)
- ④ Serum Albumin (66.4 k)
- ⑤ Ovalbumin (44.3 k)
- ⑥ Carbonic anhydrase (29 k)
- ⑦ Trypsin inhibitor (20.1 k)
- ⑧ Lysozyme (14.3 k)
- ⑨ Aprotinin (6.5 k)

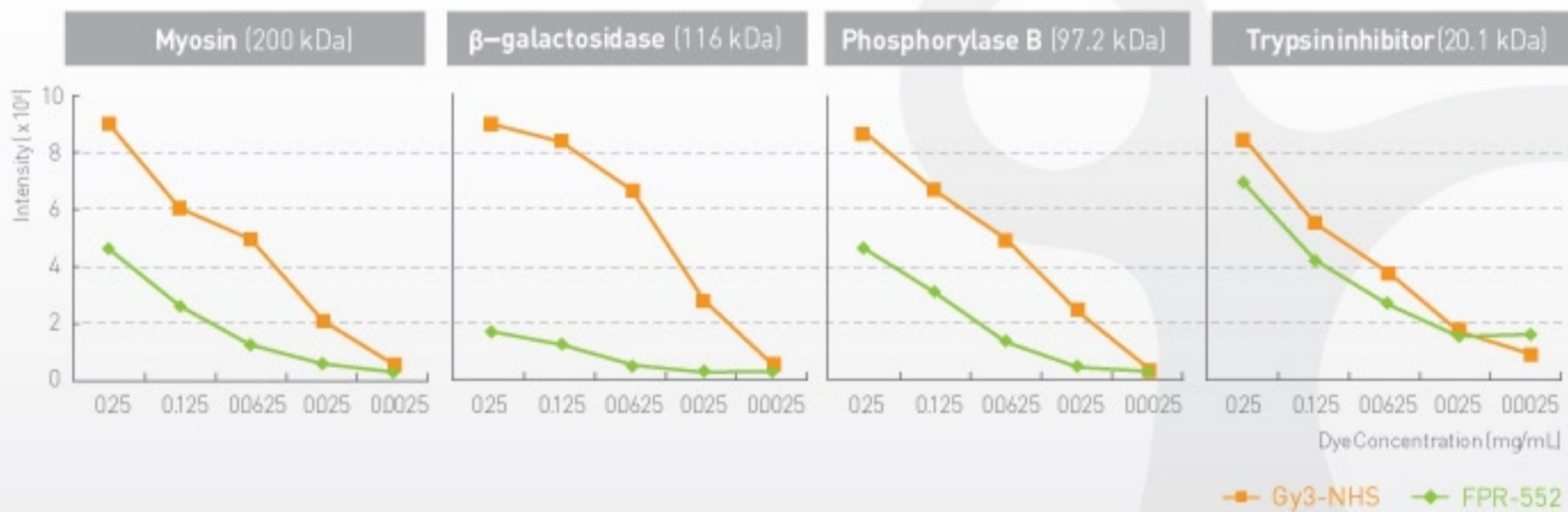
Dye Solution

(mg Dye / mL DMF Solution)

- A : 0.25
- B : 0.125 (A X 1/2)
- C : 0.0625 (A X 1/4)
- D : 0.025 (A X 1/10)
- E : 0.0025 (A X 1/100)

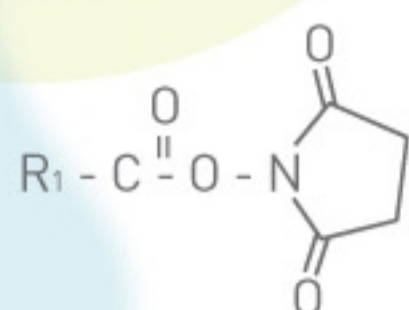
Method

1. Prepare dye solution. (1mg/100 μ L DMSO, DMF or Water)
2. Adjust protein stock with pH 8.5 phosphate buffer solution.
3. Mix dye solution 1 μ L and protein solution 19 μ L. (4 μ g protein/1 μ L protein solution)
4. Vortex and incubate (4hrs) at 36.5 $^{\circ}$ C.

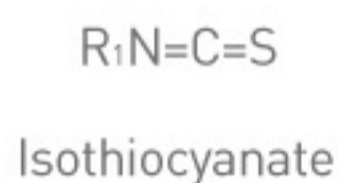


Flamma™ C Series

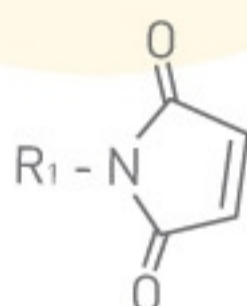
Flamma™ C Series are designed and prepared for the convenience of users who need non-activated fluorophores. These materials are prepared to be easily activated as NHS ester, maleimide, and biotin derivatives.



Succinimidyl Ester

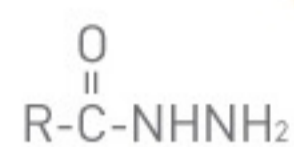


Amine



Maleimide

Thiol



Hydrazine

Carbonyl

Flamma™ K Series

Flamma™ K Series are inert probes designed to be applied in hydrophobic environments. Their outstanding physical properties, such as high stability, high molar extinction coefficient, and diversity of wavelengths, will serve your hydrophobic fluorescent experiments relevantly.

Product Name	Code No.	Solvent	λ_{abs}	λ_{em}
FKR-639N	PON0207	Methanol	639nm	664nm
FKR-641N	PON0208	Methanol	641nm	667nm
FKR-645S	PWN0207	Water	645nm	668nm
FKR-649S	PWN0208	Water	649nm	669nm
FKR-649N	PON0206	Methanol	649nm	669nm
FKI-737N	PON0306	Methanol	737nm	774nm
FKI-739N	PON0307	Methanol	739nm	774nm
FKI-740N	PON0308	Methanol	740nm	778nm
FKI-744S	PWN0307	Water	744nm	780nm
FKI-747S	PWN0308	Water	747nm	783nm

Flamma™ 456

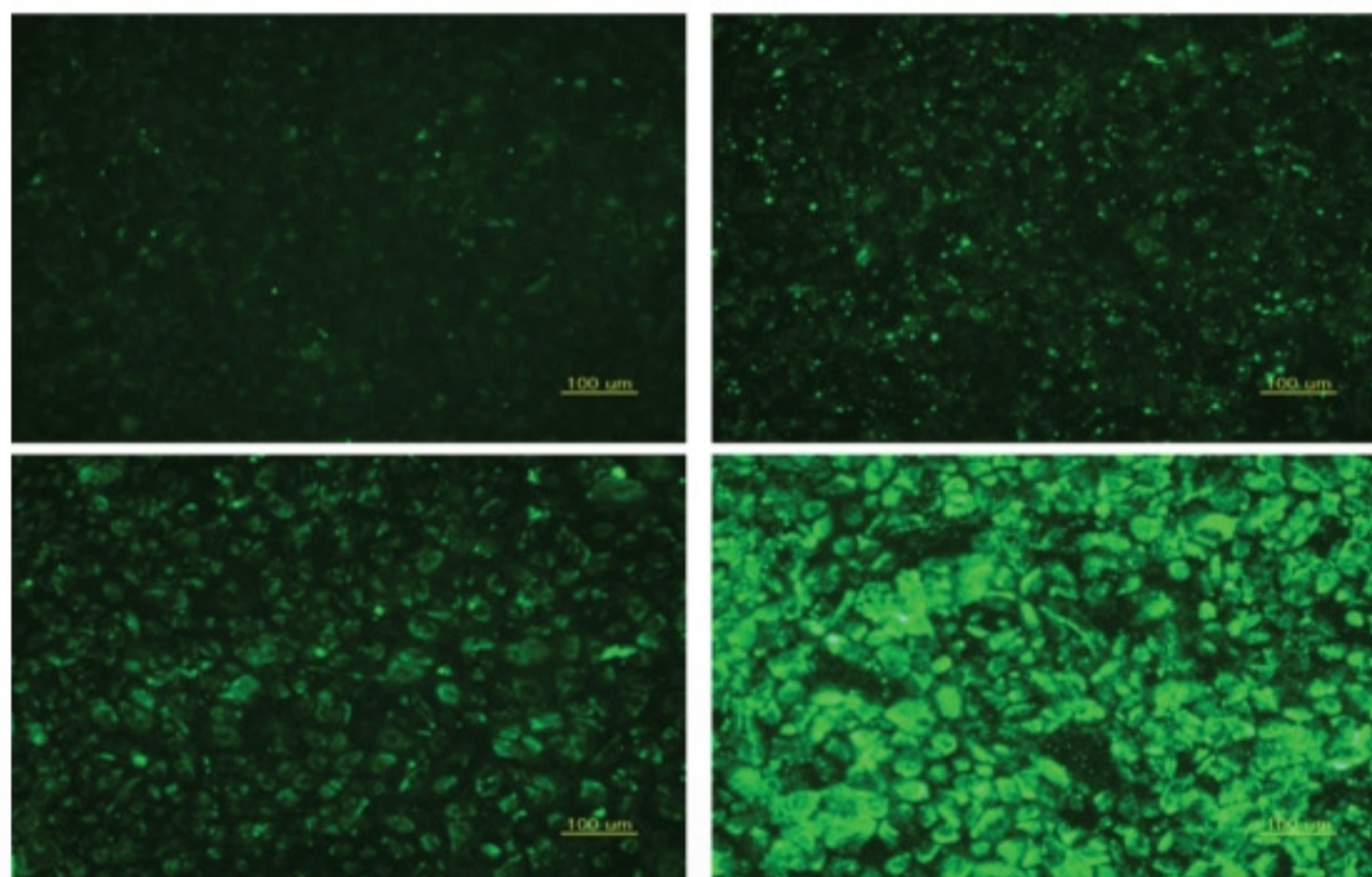
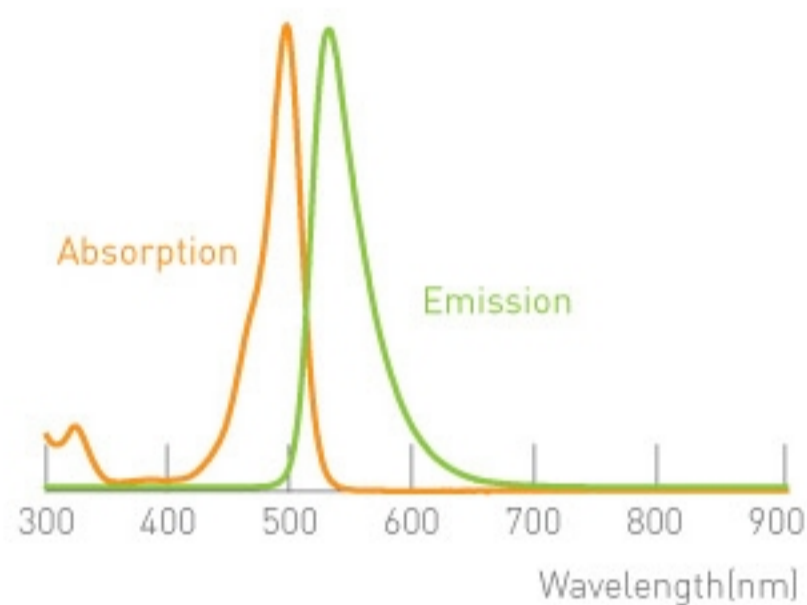
Optical Properties

- λ_{abs} : 495 nm
- λ_{em} : 529 nm
- ϵ_{max} : $5.29 \times 10^4 \text{ M}^{-1}\text{cm}^{-1}$
- Replacement for FITC, Alexa 488



Solubility

These Products can be dissolved in DMF, phosphate or carbonate buffer, and various biological buffers.



Product Name	Reactive Group	Code No.	Formula	MW g/mol	Purity
FPG-456	-	CWA1020	$\text{C}_{26}\text{H}_{25}\text{NO}_8\text{S}$	511.54	≥99%
FCG-456	Carboxylic acid	CWC1017	$\text{C}_{21}\text{H}_{14}\text{O}_7$	378.33	≥99%
FNG-456	NHS-ester	CWS1025	$\text{C}_{25}\text{H}_{17}\text{NO}_9$	475.40	-

* Product type : 5-isomer, 6-isomer, 5(6)-isomer

Flamma™ 552

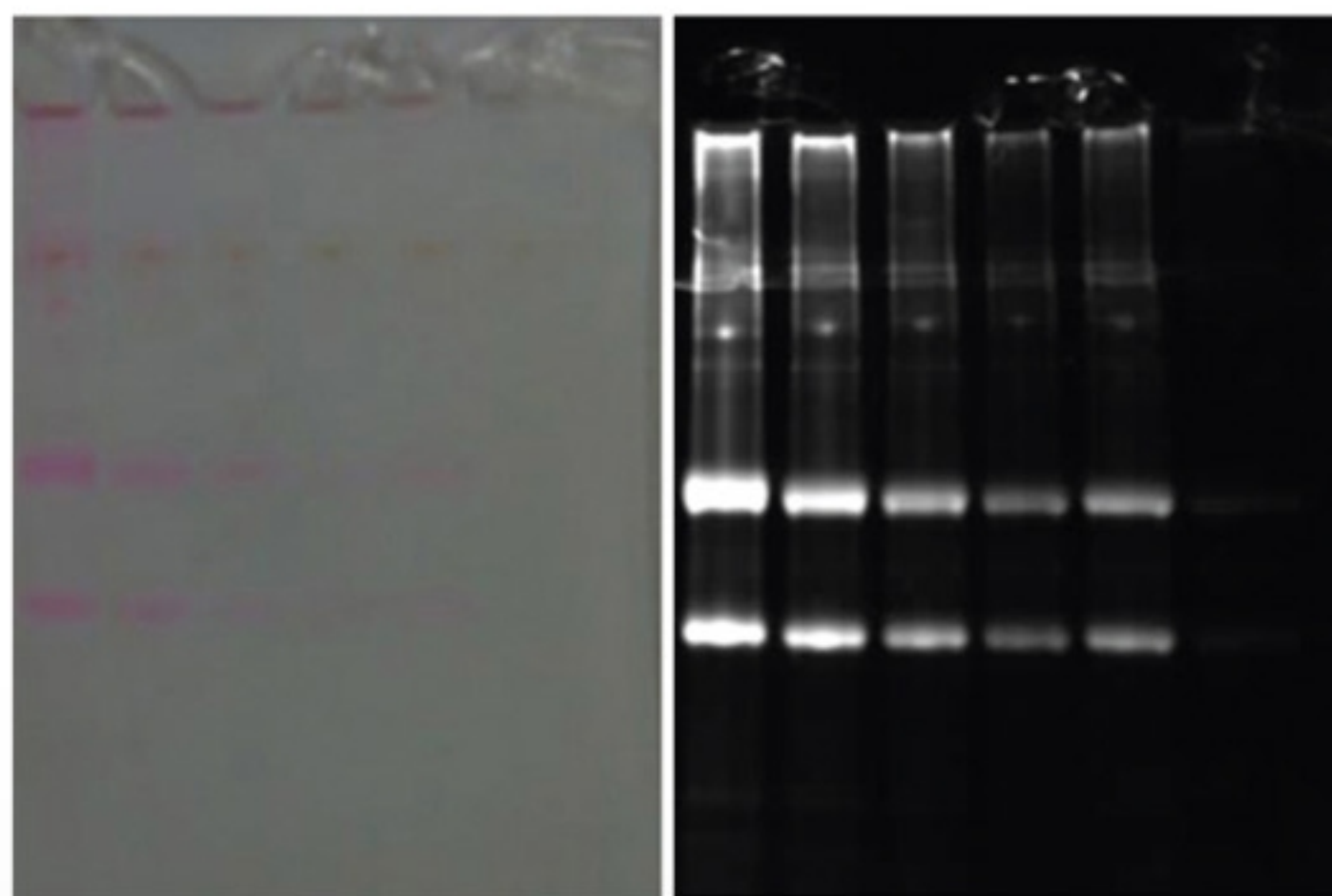
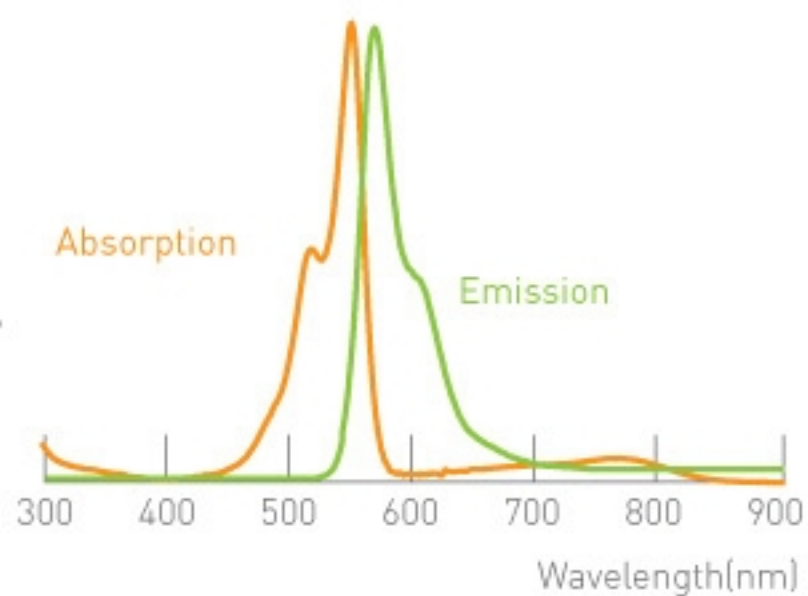


Optical Properties

- λ_{abs} : 551 nm
- λ_{em} : 570 nm
- ϵ_{max} : $1.28 \times 10^5 \text{ M}^{-1}\text{cm}^{-1}$
- Replacement for Cy3, Alexa 555

Solubility

These Products can be dissolved in DMF, H₂O, phosphate or carbonate buffer, and various biological buffers.



Product Name	Code No.	Formula	MW g/mol	Purity
FPR-552	PWA1110	$\text{C}_{36}\text{H}_{47}\text{N}_3\text{O}_9\text{S}_3$	761.97	$\geq 99\%$
FCR-552	PWC1101	$\text{C}_{32}\text{H}_{40}\text{N}_2\text{O}_8\text{S}_2$	644.8	$\geq 99\%$

Flamma™ 553

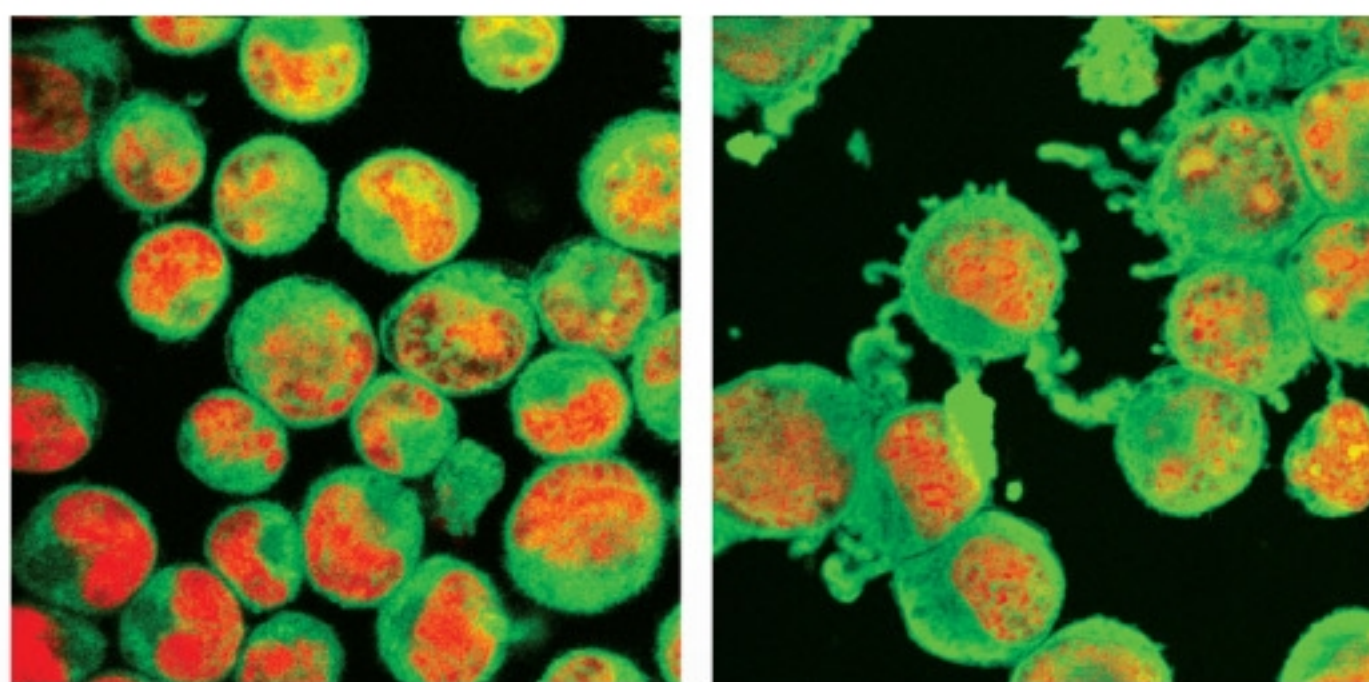
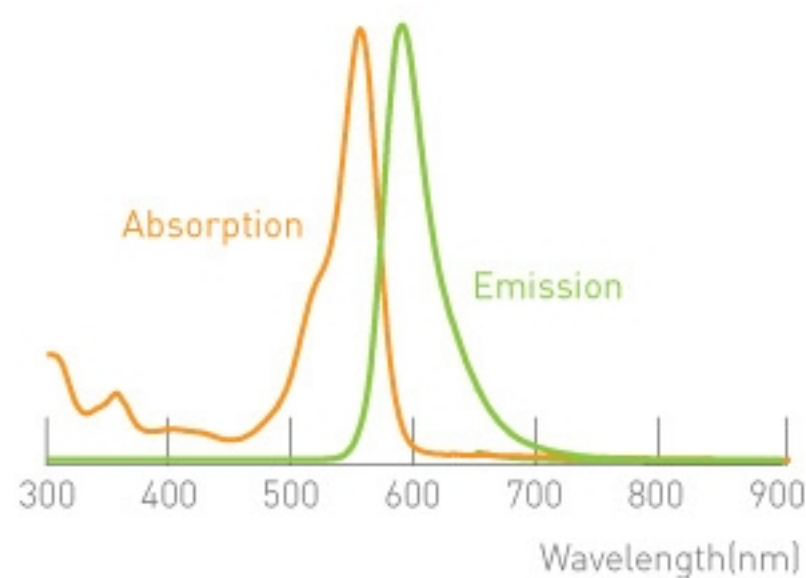
Optical Properties

- λ_{abs} : 553 nm
- λ_{em} : 587 nm
- ϵ_{max} : $8.23 \times 10^4 \text{ M}^{-1}\text{cm}^{-1}$
- Replacement for TRITC, Alexa 546



Solubility

These Products can be dissolved in DMF, phosphate or carbonate buffer, and various biological buffers.



Product Name	Code No.	Formula	MW g/mol	Purity
FPR-553	KWA1020	$\text{C}_{29}\text{H}_{31}\text{N}_3\text{O}_6\text{S}$	549.64	$\geq 99\%$
FCR-553	KWC1015	$\text{C}_{25}\text{H}_{24}\text{N}_2\text{O}_5$	432.47	$\geq 99\%$
FNR-553	KWS1025	$\text{C}_{29}\text{H}_{27}\text{N}_3\text{O}_7$	529.54	-

* Product type : 5-isomer, 6-isomer, 5[6]-isomer

Flamma™ 560

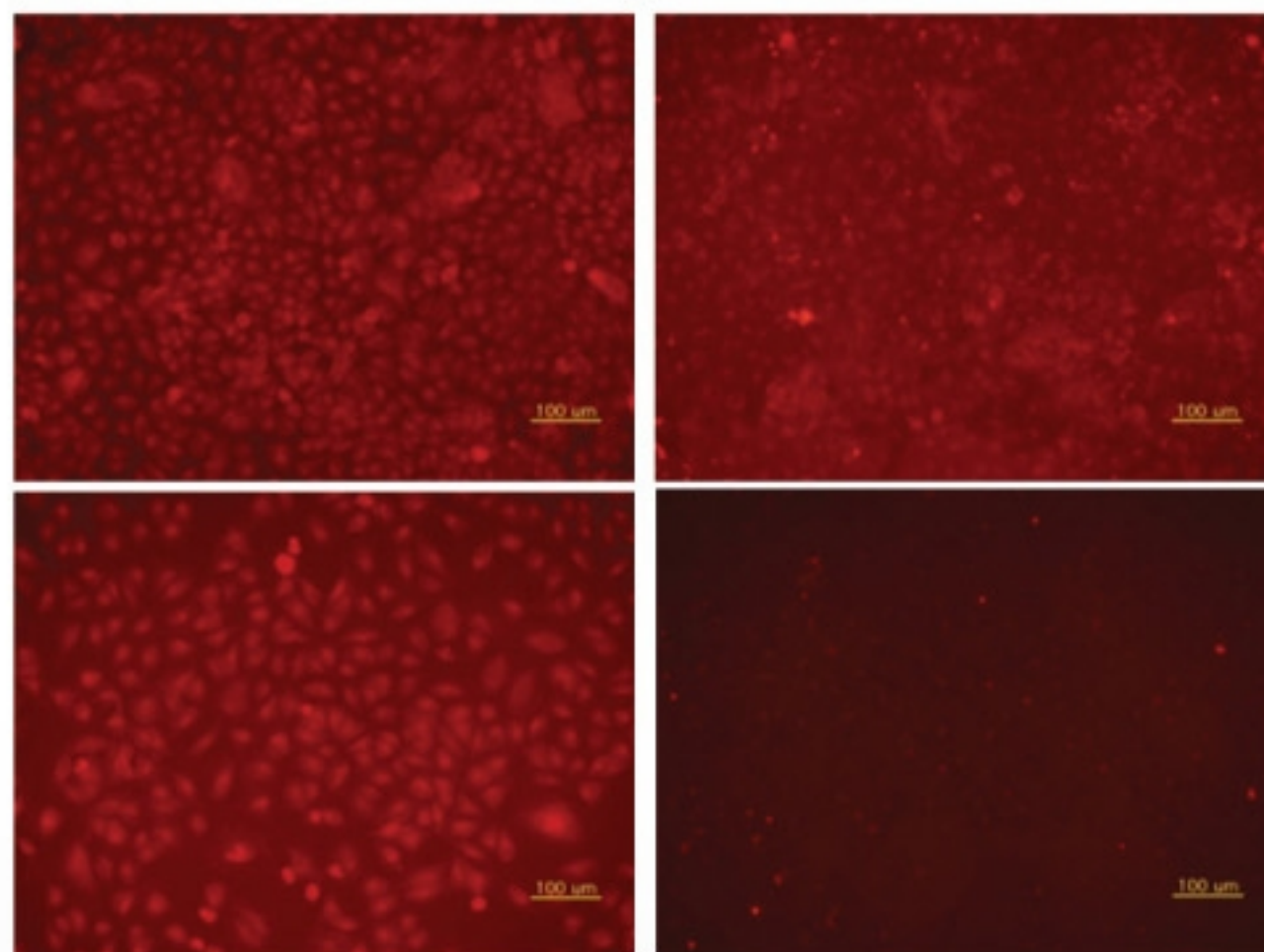
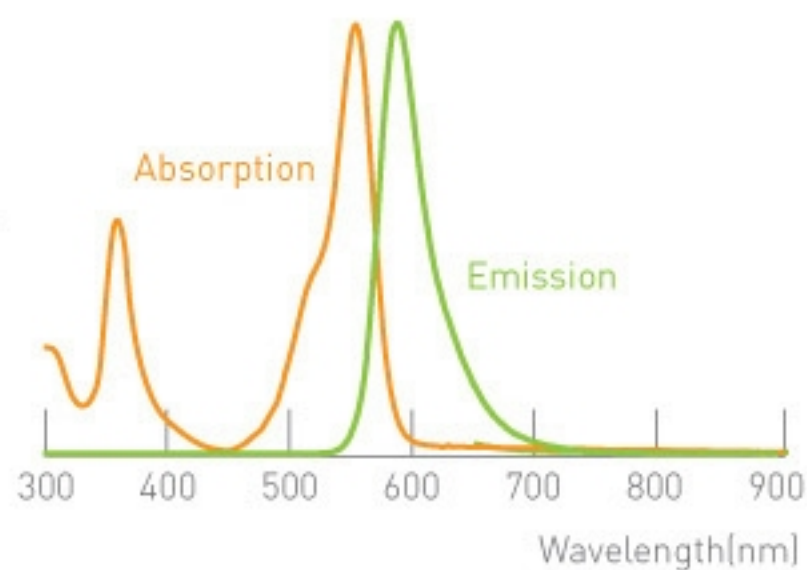


Optical Properties

- λ_{abs} : 553 nm
- λ_{em} : 585 nm
- ϵ_{max} : $1.82 \times 10^5 \text{ M}^{-1}\text{cm}^{-1}$
- Replacement for RITC

Solubility

These Products can be dissolved in DMF, phosphate or carbonate buffer, and various biological buffers.



Product Name	Code No.	Formula	MW g/mol	Purity
FPR-560	KWA1022	$\text{C}_{33}\text{H}_{39}\text{N}_3\text{O}_6\text{S}$	605.74	$\geq 99\%$
FCR-560	KWC1021	$\text{C}_{29}\text{H}_{32}\text{N}_2\text{O}_5$	488.57	$\geq 99\%$
FNR-560	KWS1028	$\text{C}_{33}\text{H}_{35}\text{N}_3\text{O}_7$	585.65	-

* Product type : 5-isomer, 6-isomer, 5(6)-isomer

* Available in October, 2009

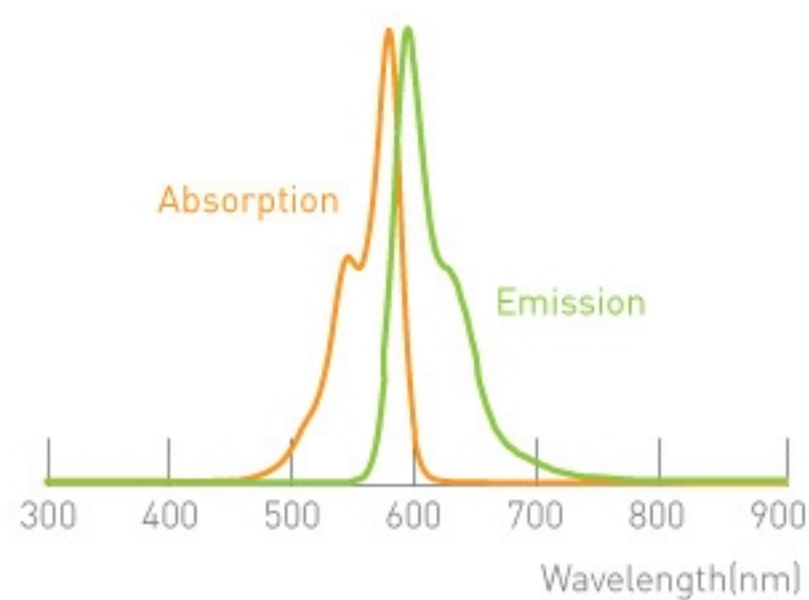
Flamma™ 581

Optical Properties

- λ_{abs} : 581 nm
- λ_{em} : 596 nm
- ϵ_{max} : $1.28 \times 10^5 \text{ M}^{-1}\text{cm}^{-1}$
- Replacement for Cy3.5, Alexa 568

Solubilities

These Products can be dissolved in DMF, H₂O, phosphate or carbonate buffer, and various biological buffers.



Product Name	Code No.	Formula	MW g/mol	Purity
FPR-581	PWA1409	$C_{43}H_{49}N_3O_{15}S_5$	1008.19	≥99%
FCR-581	PWC1401	$C_{39}H_{42}N_2O_{14}S_4$	644.8	≥99%

* Available in October, 2009

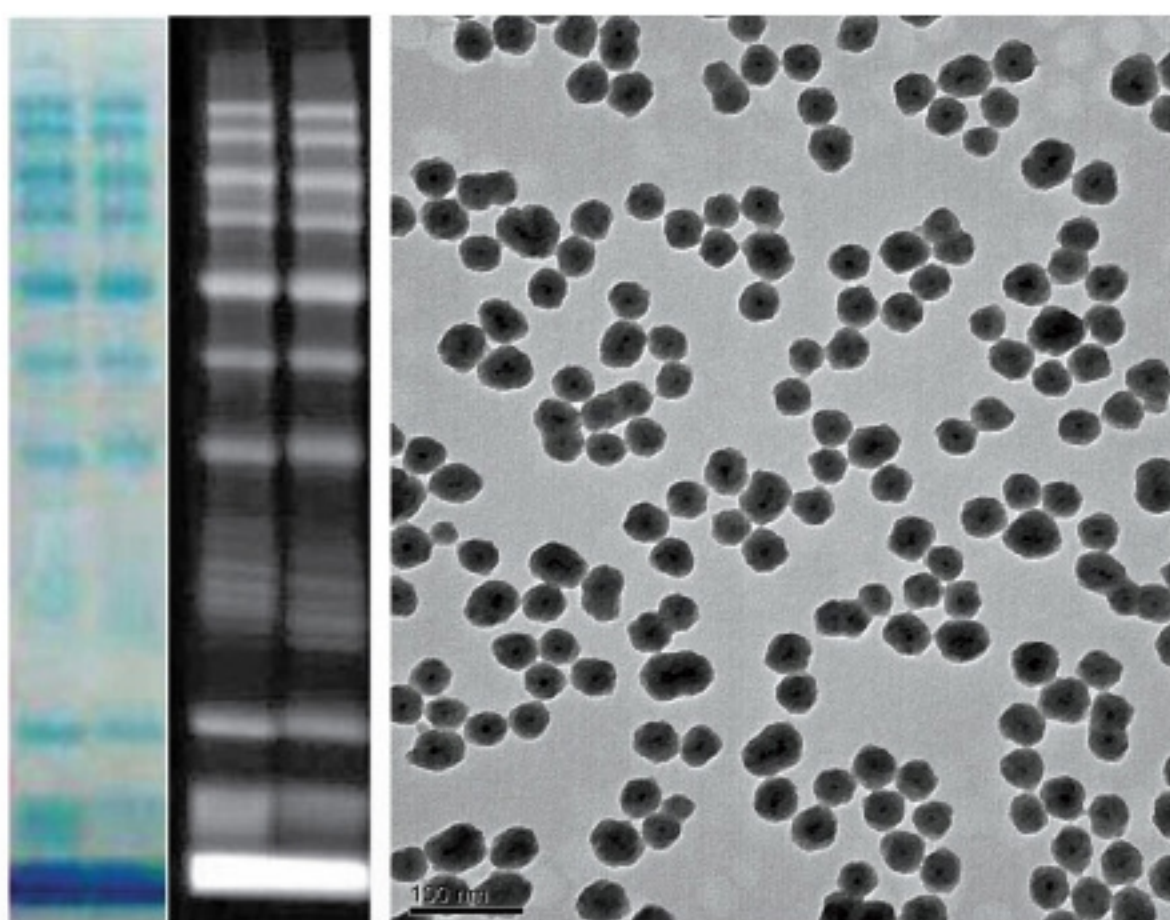
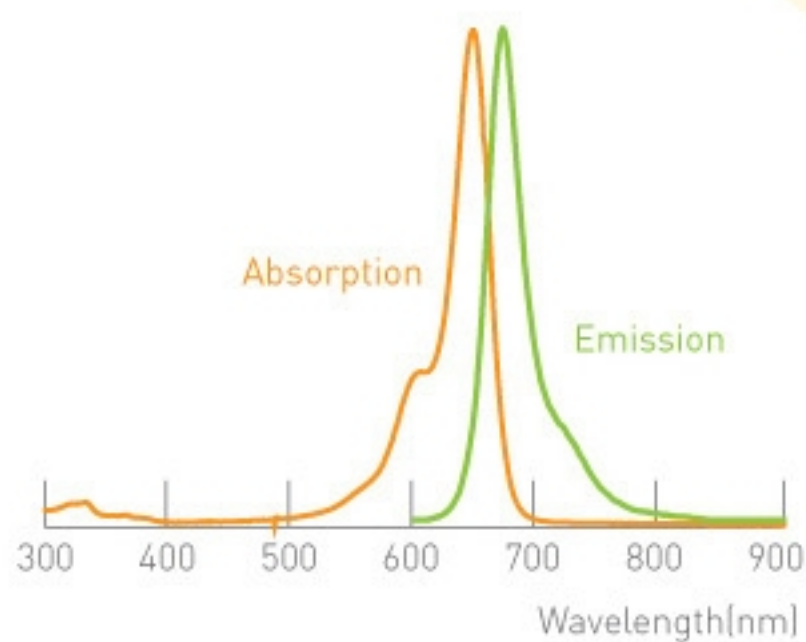
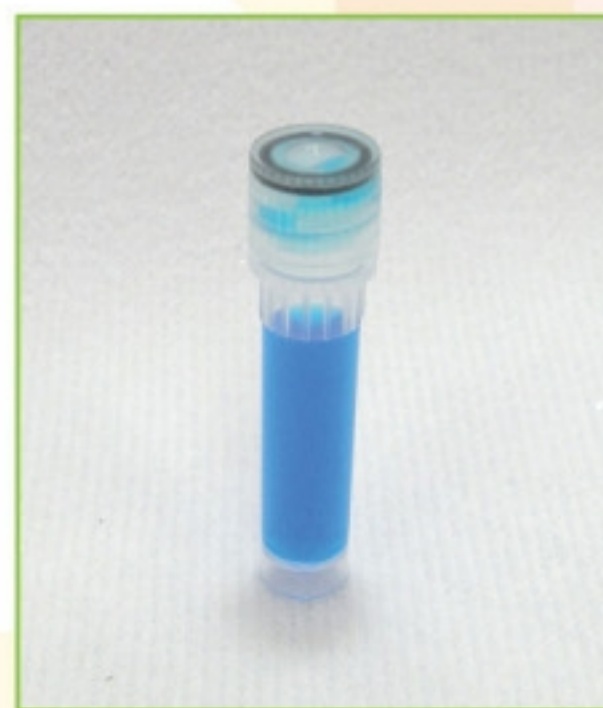
Flamma™ 648

Optical Properties

- λ_{abs} : 647 nm
- λ_{em} : 672 nm
- ϵ_{max} : $2.32 \times 10^5 \text{ M}^{-1}\text{cm}^{-1}$
- Replacement for Cy5, Alexa 647

Solubilities

These Products can be dissolved in DMF, H₂O, phosphate or carbonate buffer, and various biological buffers.



Product Name	Code No.	Formula	MW g/mol	Purity
FPR-648	PWA1209	$\text{C}_{37}\text{H}_{47}\text{N}_3\text{O}_9\text{S}_3$	773.98	$\geq 99\%$
FCR-648	PWC1201	$\text{C}_{33}\text{H}_{40}\text{N}_2\text{O}_8\text{S}_2$	656.81	$\geq 99\%$

Flamma™ 675

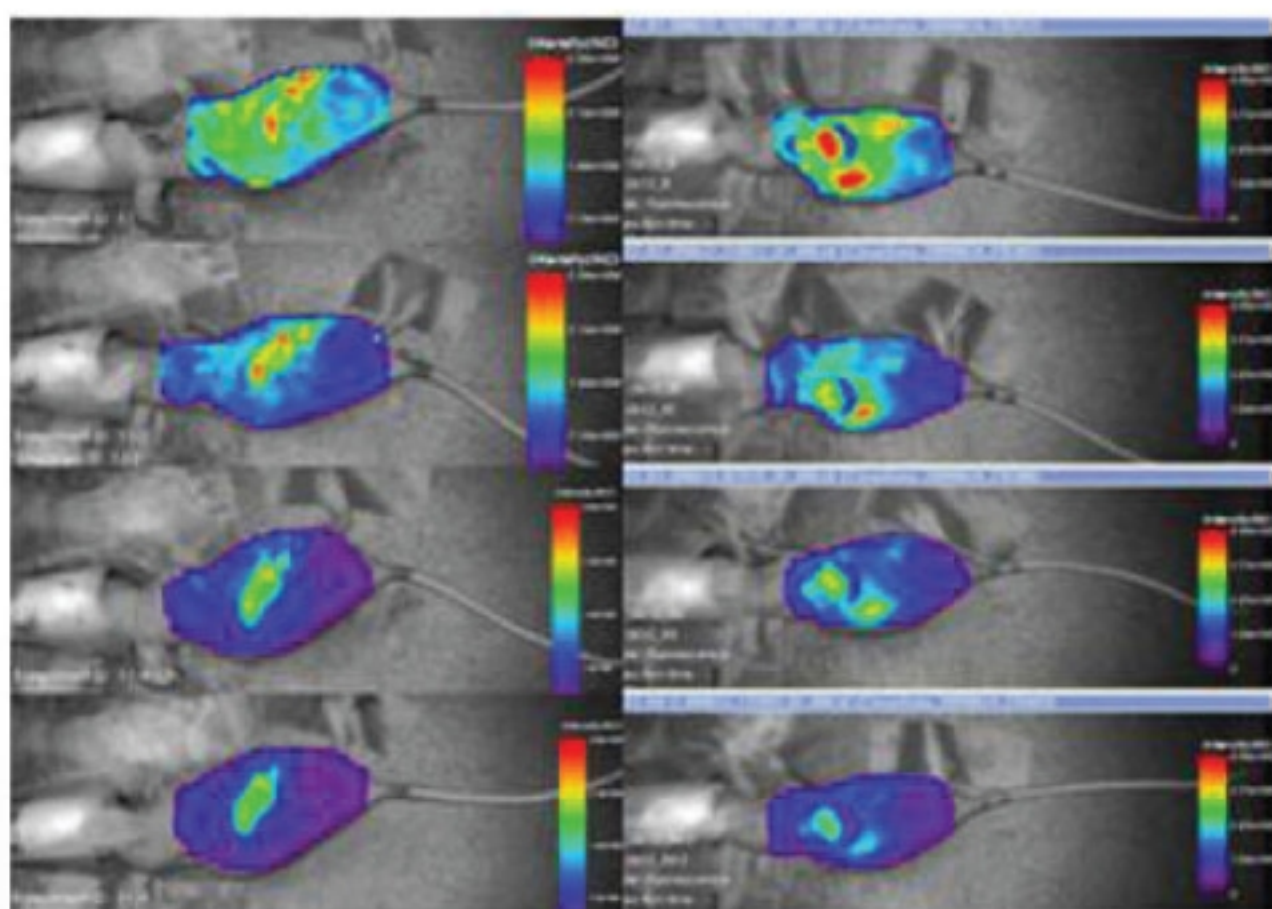
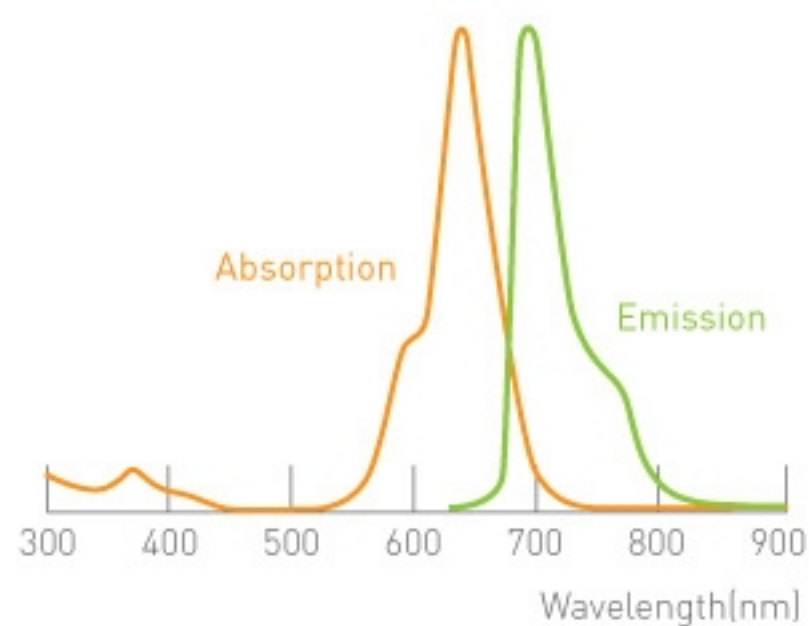
Optical Properties

- λ_{abs} : 675 nm
- λ_{em} : 694 nm
- ϵ_{max} : $2.32 \times 10^5 \text{ M}^{-1}\text{cm}^{-1}$
- Replacement for y5.5, Alexa 660



Solubility

These Products can be dissolved in DMF, H₂O, phosphate or carbonate buffer, and various biological buffers.



Product Name	Code No.	Formula	MW g/mol	Purity
FPR-675	PWA1509	$\text{C}_{45}\text{H}_{51}\text{N}_3\text{O}_{15}\text{S}_5$	1034.22	≥99%
FCR-675	PWC1501	$\text{C}_{41}\text{H}_{44}\text{N}_2\text{O}_{14}\text{S}_4$	917.05	≥99%

* Available in October, 2009

Flamma™ 749

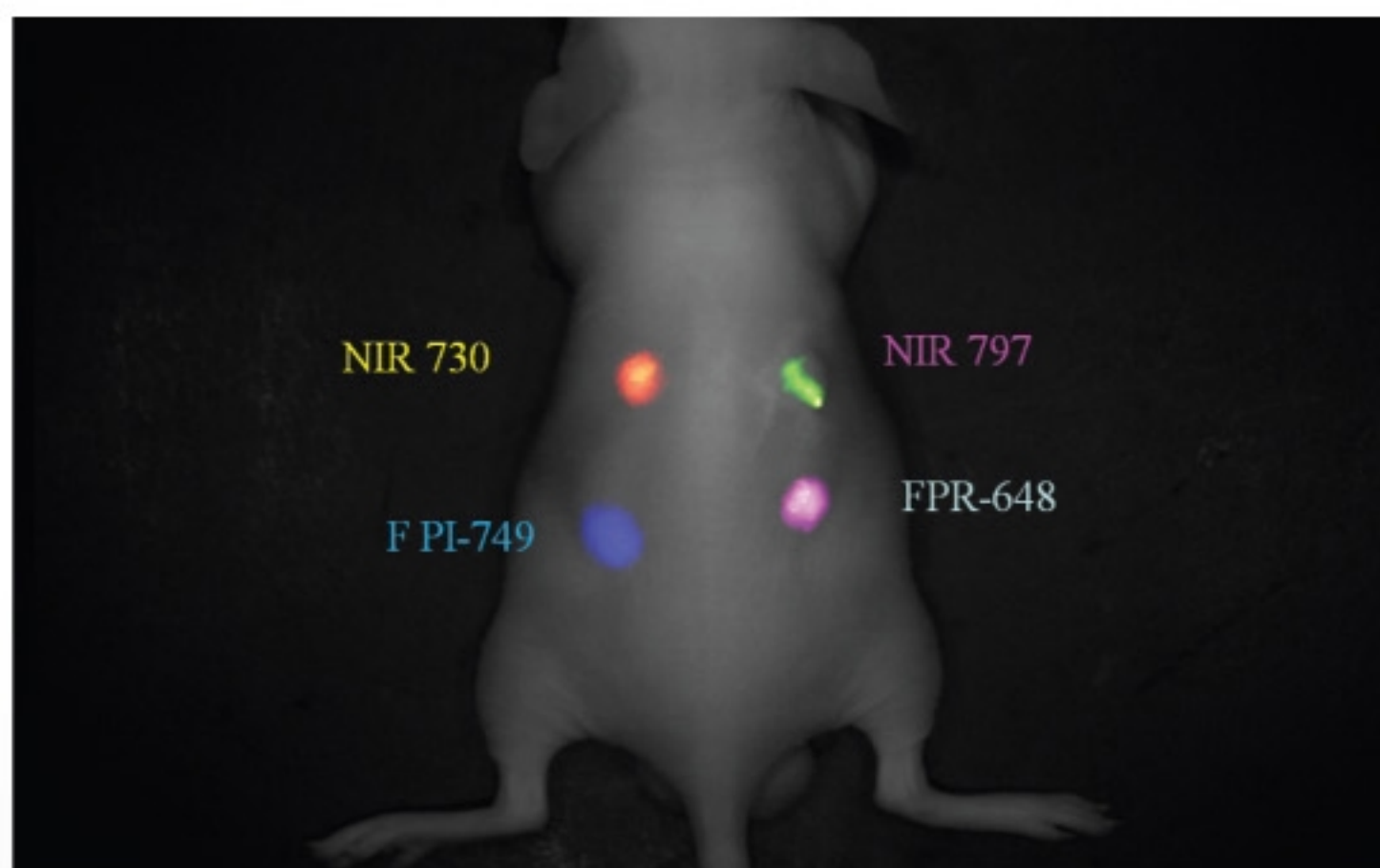
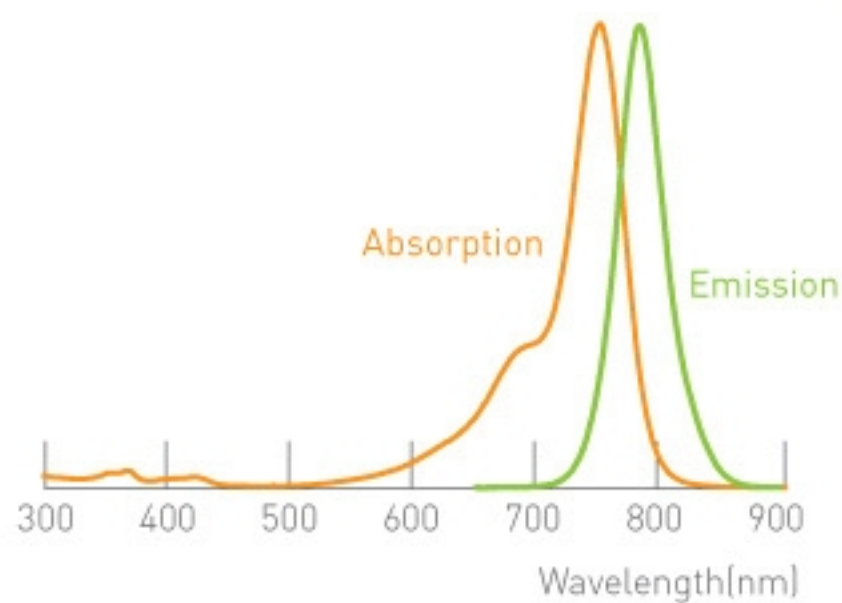


Optical Properties

- λ_{abs} : 749 nm
- λ_{em} : 782 nm
- ϵ_{max} : $1.82 \times 10^5 \text{ M}^{-1}\text{cm}^{-1}$
- Replacement for Cy7, Alexa 750

Solubility

These Products can be dissolved in DMF, H₂O, phosphate or carbonate buffer, and various biological buffers.



Product Name	Code No.	Formula	MW g/mol	Purity
FPI-749	PWA1308	$C_{41}H_{53}N_3O_9S_3$	828.07	≥99%
FCI-749	PWC1301	$C_{37}H_{46}N_2O_8S_2$	710.9	≥99%

Flamma™ 774

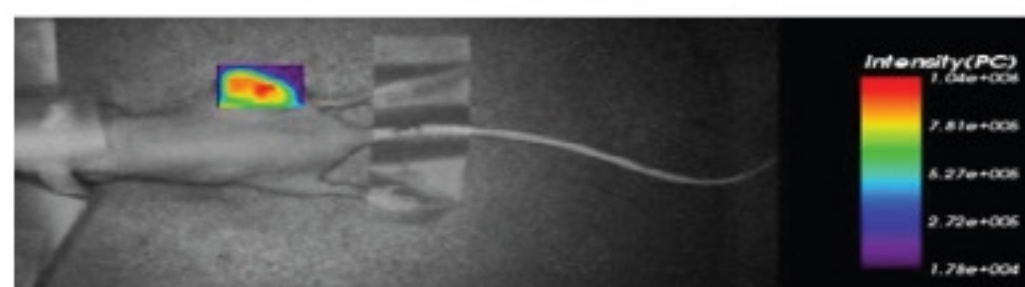
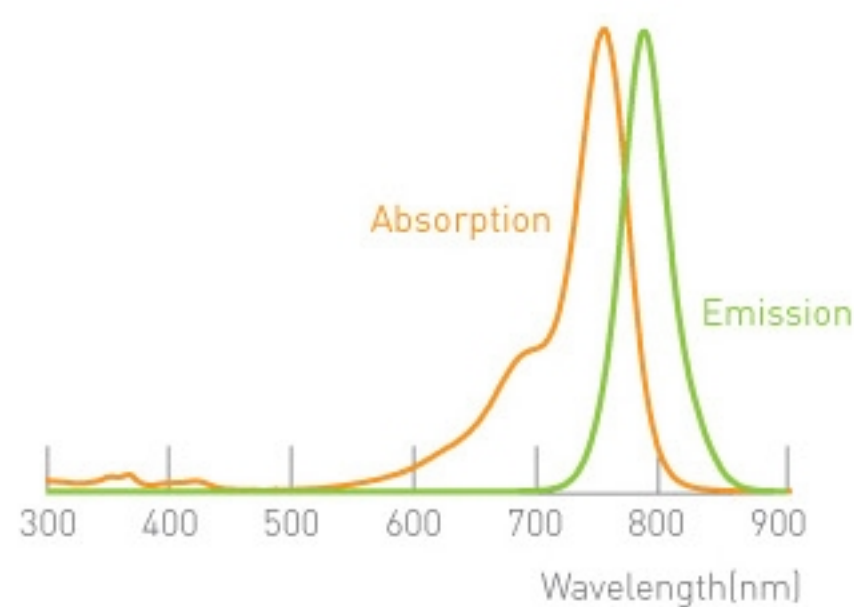
Optical Properties

- λ_{abs} : 774 nm
- λ_{em} : 802 nm
- ϵ_{max} : $1.82 \times 10^5 \text{ M}^{-1}\text{cm}^{-1}$
- Replacement for Cy7.5



Solubility

These Products can be dissolved in DMF, H₂O, phosphate or carbonate buffer, and various biological buffers.



A. Cy7.5 labeled peptide



B. FPR-774 labeled peptide

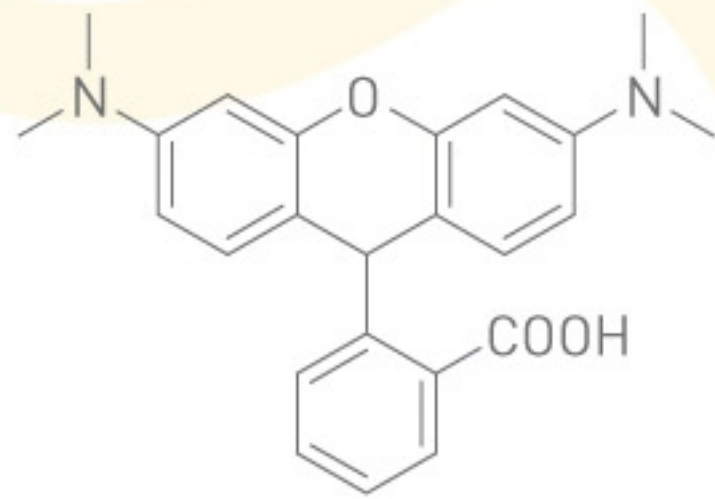
Product Name	Code No.	Formula	MW g/mol	Purity
FPI-774	PWA1609	$\text{C}_{49}\text{H}_{57}\text{N}_3\text{O}_{15}\text{S}_5$	1088.31	≥ 99%
FCI-774	PWC1601	$\text{C}_{45}\text{H}_{50}\text{N}_2\text{O}_{14}\text{S}_4$	971.14	≥ 99%

* Available in October, 2009

Commodities

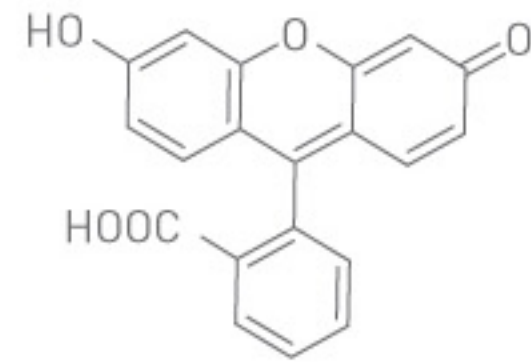
Isothiocyanate Type (-NCS)

- FITC, RITC
- Mass Production : more than 10 kg
- Marketing : 2009. 10.



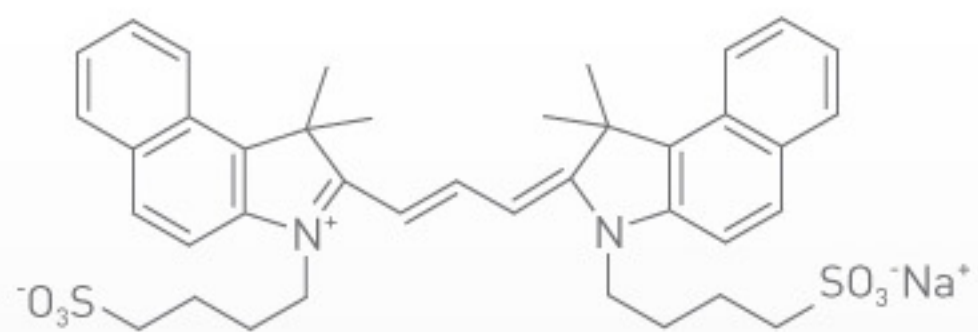
NHS Type

- Fluorescein-NHS, Rhodamine-NHS
- Low Price, High Purity
- Marketing : 2009. 10.



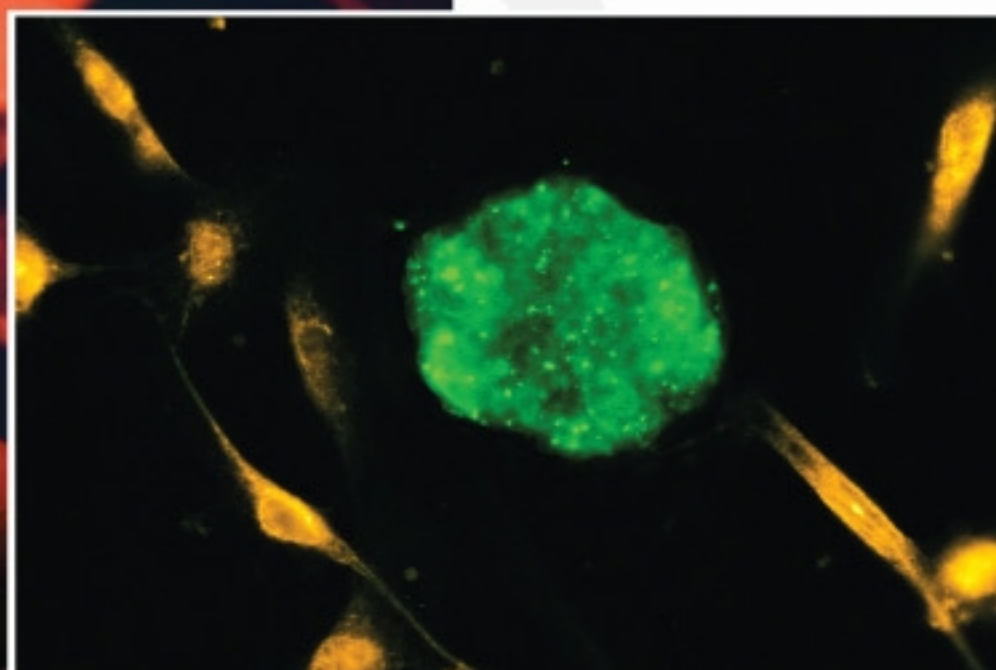
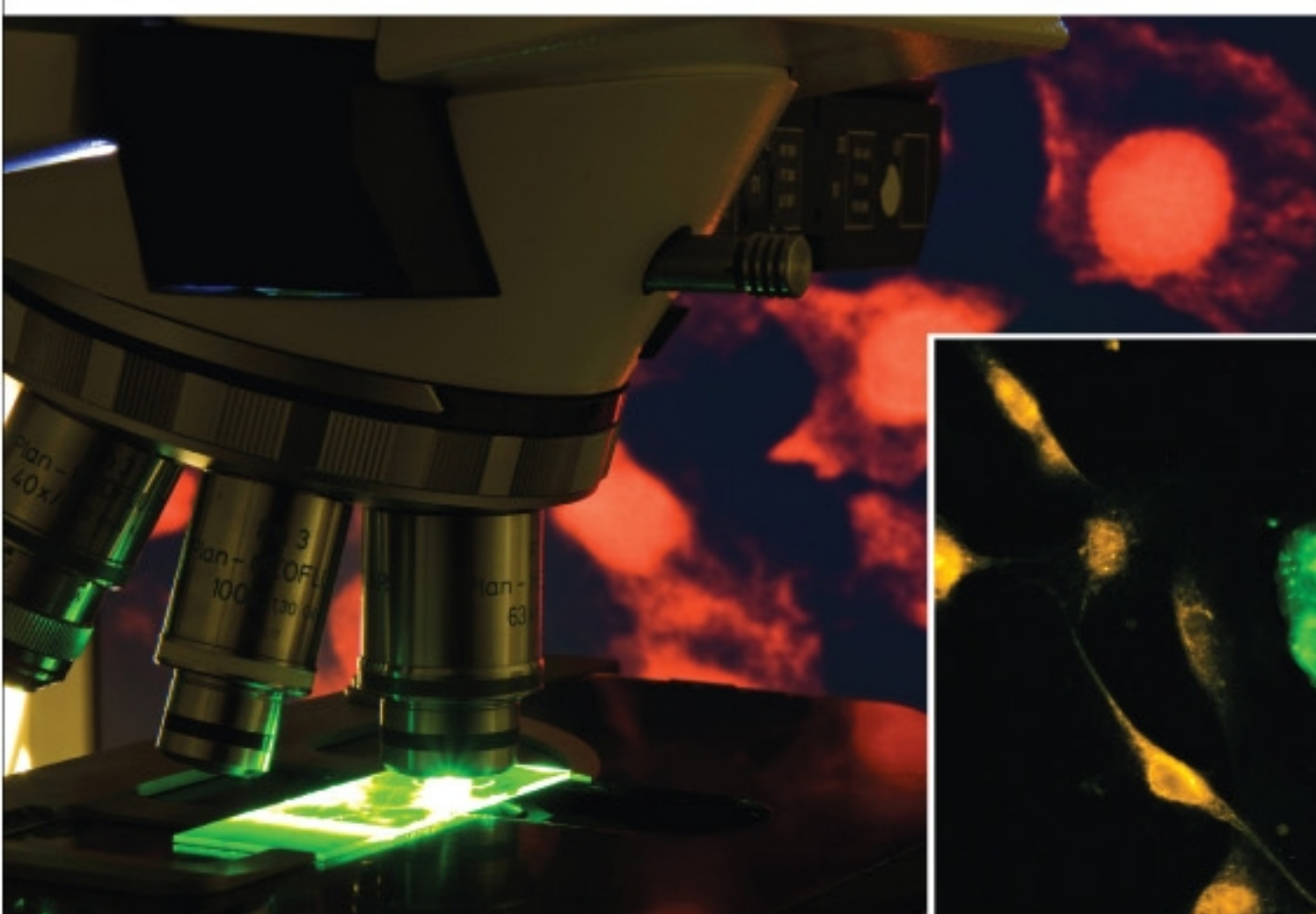
Fluorophores

- ICG (Indocyaning Green)
- FAM, TAMRA
- Marketing : 2009. 10.

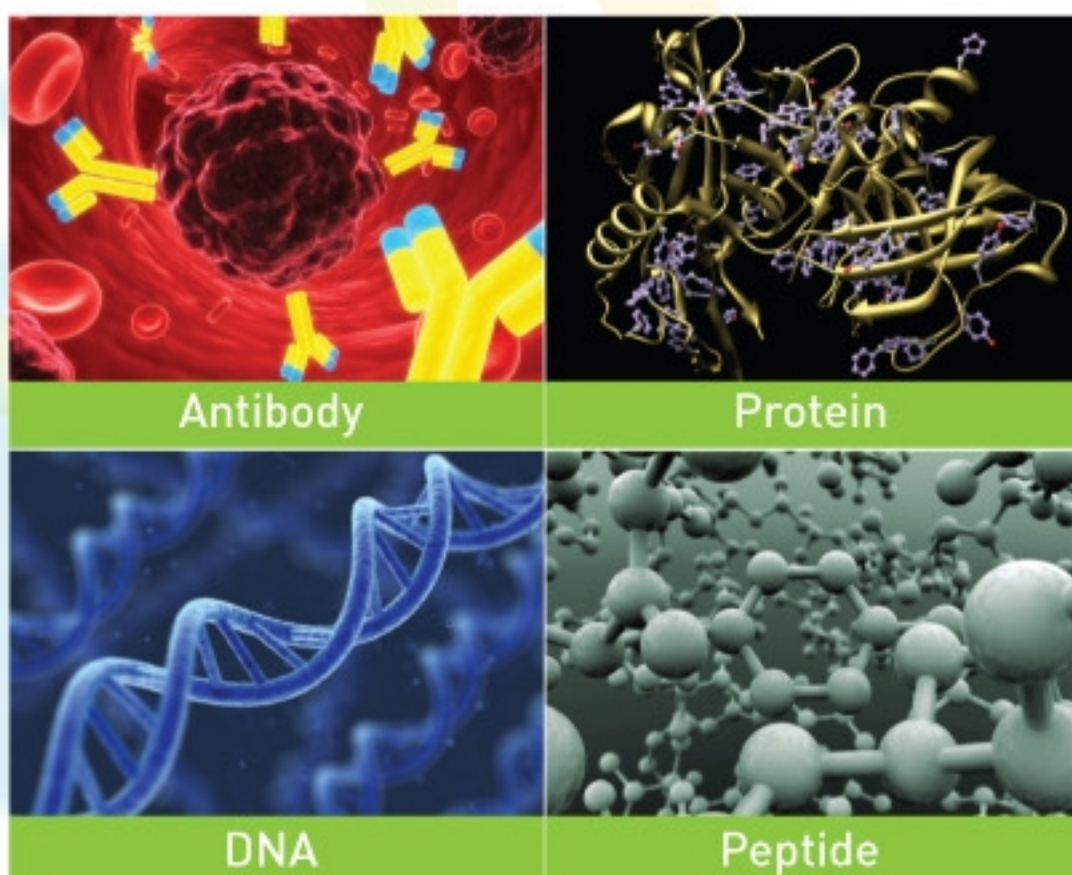


Package unit

Unit (Package)		Products	Unit (Package)		Products
Unit	Q'TY		Unit	Q'TY	
1 mg	1	FPG-456, FPR-552, FPR-553, FPR-560, FPR-581, FPR-648, FPR-675, FPI-749, FPI-774	25 mg	1	FPG-456, FPR-552, FPR-553, FPR-560, FPR-581, FPR-648, FPR-675, FPI-749, FPI-774
	3			3	
	5			5	
	10			5	
5 mg	1	FPG-456, FPR-552, FPR-553, FPR-560, FPR-581, FPR-648, FPR-675, FPI-749, FPI-774	50 mg	1	FPG-456, FPR-552, FPR-553, FPR-560, FPR-581, FPR-648, FPR-675, FPI-749, FPI-774
	3			2	
	5			2	
	10			1	
10 mg	1	FPG-456, FPR-552, FPR-553, FPR-560, FPR-581, FPR-648, FPR-675, FPI-749, FPI-774	100 mg	1	FPG-456, FPR-552, FPR-553, FPR-560, FPR-581, FPR-648, FPR-675, FPI-749, FPI-774
	3			10	
	5			10	
	10			1	
			1 g	1	FCG-456, FCR-560



Research & Development



- Fluorophores
- Amine-Reactive Probes
- Thiol-Reactive Probes
- Biotin derivatives and Haptens
- Antibodies, Avidins, Lectins and Related Products
- Nucleic Acid Detection and Genomic Technology
- Protein Detection and Proteomics Technology
- Indicator for Ca^{2+} , Mg^{2+} , Zn^{2+} and other metal ions
- pH Indicators

Microscopic Application (Light)

Fluorophores & Derivatives

Fluorophores	<ul style="list-style-type: none"> • Cyanine • Rhodamines • Near-IR Fluorophores 	<ul style="list-style-type: none"> • Fluoresceins • Hydrophobic Dyes • Custom Dye Synthesis
Biomolecule-Reactive Derivatives	<ul style="list-style-type: none"> • Flamma™ Fluor Serise • Biotin labeled • Ready-to-stain Biomolecule Labeling Kits 	<ul style="list-style-type: none"> • Amine-reactive • Nucleic acid Reactive Dyes
Proteomics	<ul style="list-style-type: none"> • For Protein labeling 	
Gel Separation	<ul style="list-style-type: none"> • Fluorescent Markers 	<ul style="list-style-type: none"> • Rainbow Markers
FRET Pairs	<ul style="list-style-type: none"> • Fluorophore-Fluorophore pairs 	<ul style="list-style-type: none"> • Quencher

Bioactive Fluorescence Probes

Cancer Trackers	<ul style="list-style-type: none"> • In Vitro & In Vivo Trackers
Immunofluorescence	<ul style="list-style-type: none"> • Secondary Antibodies
Indicators for Metal Ions	<ul style="list-style-type: none"> • Ca^{2+}, Mg^{2+}, Zn^{2+}
Indicators for Ions	<ul style="list-style-type: none"> • Na^{2+}, K^+, Cl^-
Disease Related Fluorophores	<ul style="list-style-type: none"> • Beta-amyloid Fibril Indicator for Alzheimer's Disease • Prion Indicator for Bovine Spongiform Encephalopathy • Cancer Cell Trackers
pH Indicators	



USA Distribution Office
AKINA, Inc.
1291 Cumberland Ave, West Lafayette, IN 47906, USA
TEL 1-765-464-0501 Fax 1-765-464-0820
www.akinainc.com **info@akinainc.com**
www.bioacts.com **info@bioacts.com**