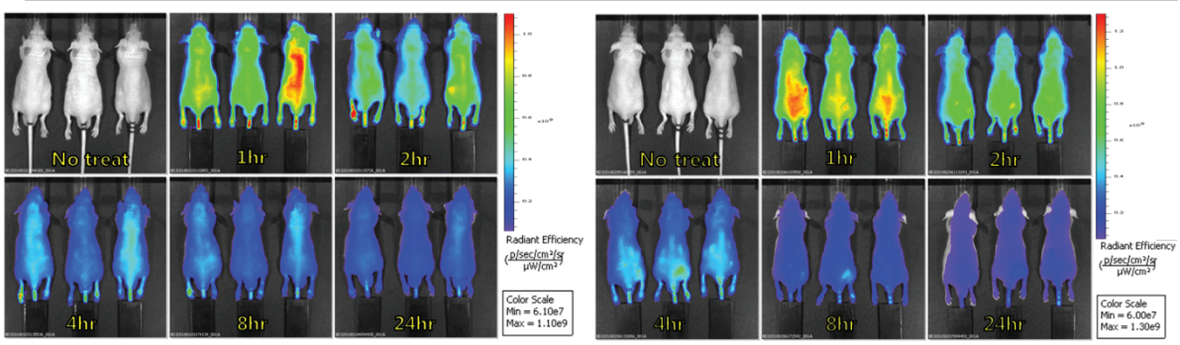
Fluorescent NIR Dyes

Safe and Cost Effective Biological Imaging

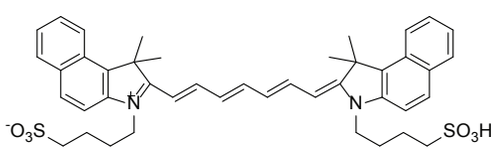
Near infrared (NIR) fluorescence is safe and cost effective technique and allows to observe the deep fluorescence image through the biological tissue. NIR dye is widely used in medical diagnostics, *in vitro*, *in vivo*, animal model study, etc. BioActs offers a series of NIR dyes such as FSD Fluor™, Flamma®Fluors, and ICG.

List of NIR FSD Fluor™ Dyes

Cat. No.	Product Name	Ex_{Max} (nm)	Em_{Max} (nm)	Replacement for	Packing Unit
KOSC1315	FSD Fluor™ 647 NHS ester	651	667	Alexa647, DyLight650, Cy5	1, 5, 25 mg
KOSC1515	FSD Fluor™ 680 NHS ester	679	696	Alexa 680, DyLight 680, Cy 5.5, IRDye680LT	1, 5, 25 mg
KOSC1702	FSD Fluor™ 750 NHS ester	751	774	Alexa750, DyLight755, Cy7, IRDye750	1, 5, 25 mg
POSC1803	FSD Fluor™ 800 NHS ester	774	790	Cy7.5, DyLight800, IRDye800	1, 5, 25 mg



Biodistribution Images of FSD 750 and FSD 800



Structure of Indocyanine Green (ICG) dye

- Fluorophore: ICG
- Reactive Group: See details below
- Excitation Max.(nm): 785
- Emission Max.(nm): 812
- Emission Color: NIR

ICG Dye Applications

Reactive ICG	
Reactive Form	**Reacting with**
ICG NHS ester ICG Sulfo-NHS ester ICG Vinylsulfone ICG Isothiocyanate	Primary amine
ICG Maleimide	Thiol
ICG Hydrazine	Aldehyde, Ketone
ICG Dichlorotriazine	Hydroxyl

ICG for Click Chemistry	
Reactive Form	**Application**
ICG Alkyne	CuAAC*
ICG PEG-4 alkyne	CuAAC*
ICG Azide	CuAAC*
ICG ADIBO	SPAAC**
Non-Reactive ICG	
ICG	
ICG (water-soluble)	
ICG Amine	
ICG Thiol	
ICG Carboxylic acid	

*CuAAC: Copper-catalysed azide–alkyne cycloadditions
**SPAAC: Strain-promoted alkyne-azide cycloadditions

Fluorescent NIR Dyes

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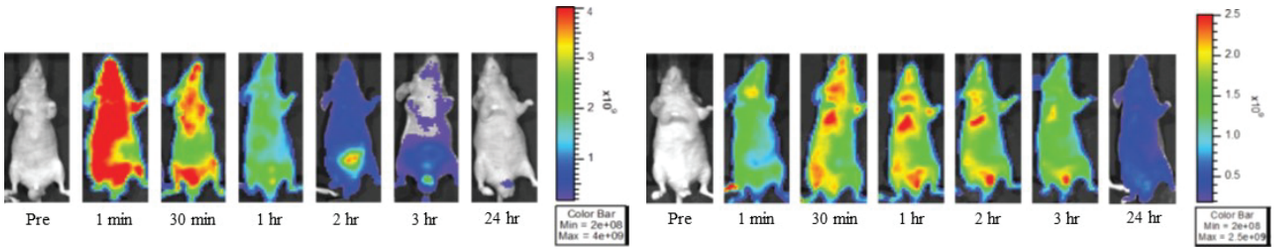
List of Flamma® NIR Fluors Products

Flamma® Fluors	Ex_{Max} (nm)	Em_{Max} (nm)	Replacement for
Flamma® 648	648	663	Alexa647, DyLight650, Cy5, ATTO 647N, CF647
Flamma® 675	675	691	Alexa680, DyLight680, Cy5.5, IRDye680LT, CF680
Flamma® 749	749	774	Alexa750, DyLight755, Cy7, IRDye750
Flamma® 774	774	800	Cy7.5, DyLight800, IRDye800, CF770
Flamma® 800	774	789	Cy7.5, DyLight800, IRDye800

Flamma® NIR Fluors Applications

Reactive Flamma® NIR Fluors	Reactive Target Group
Flamma® NIR Fluors NHS ester	Amine ($-NH_2$)
Flamma® NIR Fluors Sulfo-NHS ester	
Flamma® NIR Fluors Vinylsulfone	
Flamma® NIR Fluors Isothiocyanate	
Flamma® NIR Fluors Maleimide	Thiol (-SH)
Flamma® NIR Fluors Hydrazide	Aldehyde, ketone & hydroxyl group
Flamma® NIR Fluors Dichlorotriazine	

Functionalized Flamma® NIR Fluors
Flamma® NIR Fluors Carboxylic acid
Flamma® NIR Fluors Amine
Flamma® NIR Fluors Thiol
Click-chemistry Flamma® NIR Fluors
Flamma® NIR Fluors Alkyne
Flamma® NIR Fluors PEG4-Alkyne
Flamma® NIR Fluors ADIBO



Fluorescence Images of Flamma® 749 (left) and Flamma® 774 (right) Carboxylic Acid Injected Mice

Custom Service: BioActs provides custom antibody/protein fluorescence labeling services with a wide selection of reactive dyes and proper labeling technology.

For ordering custom service, complete custom labeling service request form and submit via email order@bioacts.com or by fax to +82-32-818-8206

For questions, please contact us at support@bioacts.com

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