

FT-EV0920

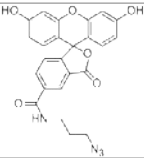
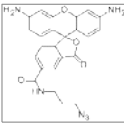
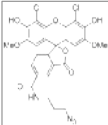
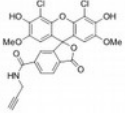


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## Classic fluorescent dyes – Azide conjugates for Click chemistry

Activated fluorescent dyes containing azide moiety for labeling by Click Chemistry, i.e. conjugation to *Alkyne modified* proteins, peptides, amino-modified DNAs and oligos.

### Products Description

Fluorescent dye – Azide conjugate	Cat.number	MW	$\lambda_{Abs./Em.}$ (nm)	EC	QY	Store
<ul style="list-style-type: none"> <li>• <b>AMCA azide</b></li> </ul>	FP-GDA480	301.30	353/455			
	7-Amino-4-methyl-3-coumarin acetic acid, azide					
<ul style="list-style-type: none"> <li>• <b>7-hydroxycoumarin azide</b></li> </ul>	FP-IOK790			203.15 404/477		
	3-Azido-7-hydroxycoumarin					
<ul style="list-style-type: none"> <li>• <b>FAM azide, 5-isomer</b></li> </ul> 	FP-EV0920 $\mu$ (10 mM solution)	458.42 (+458.4)	495/520	75 000	0.9	(M)
	FP-IOI170 (powder)					
	Also available: • FAM azide, 6-isomer #FP-EV0930					
<ul style="list-style-type: none"> <li>• <b>FAM azide, 5(6)-isomers</b></li> </ul>	FP-DQP150	458.43	492/517	83 010	0.9	
<ul style="list-style-type: none"> <li>• <b>6-Carboxy-fluorescein-PEG azide</b></li> </ul>	FJ0011	576.57	495/520			
<ul style="list-style-type: none"> <li>• <b>R110 – Azide (5-isomer)</b></li> </ul>	FP-FZ8720	546.45 (+456.5)	496/520	80 000	0.9	(M)
<ul style="list-style-type: none"> <li>• <b>R110 – Azide (6-isomer)</b></li> </ul> 	FP-KV5510	546.45 (+456.5)	496/520	80 000	0.9	
	Rhodamine 110					
<ul style="list-style-type: none"> <li>• <b>JOE azide, 5-isomer</b></li> </ul> 	FP-EV0940	587.36 (+587.36)	520/548	71 000	0.6	
<ul style="list-style-type: none"> <li>• <b>JOE azide, 6-isomer</b></li> </ul> 	FP-SNX451	542.32 (+541.0)	533/554	75 000	0.6	

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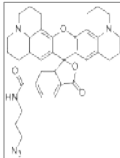
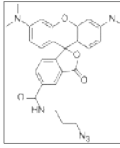
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<p>• <b>ROX azide, 5-isomer</b></p> 	<p>FP-EV0950</p> <p>Also available: • ROX azide, 6-isomer #FP-EV0960</p>	<p>616.71 (+616.7)</p>	<p>570/601</p>	<p>82 000</p>	<p>0.7 (M)</p>
<p>• <b>TAMRA azide, 5-isomer</b></p> 	<p>FP-EV0880, 10mM</p> <p>FP-DQP12A</p>	<p>512.56 (+512.5)</p>	<p>544/576</p>	<p>89 000</p>	<p>0.1 (M)</p>
<p>• <b>Cyanine – Azide conjugates</b></p>	<p><a href="#">CyDyes</a> dyes, activated by <a href="#">-Azide</a> : see the tech sheet <a href="#">FT-HO7250</a>, i.e. Cy3 azide #HO7250 and Cy5- Azide #CY5AZ0</p>				

## Introduction

The above reagents are classic fluorescent dyes derivatives dedicated to conjugation by click chemistry. They are provided as Azide conjugates that readily couple to any alkyne modified biomolecules.

Click chemistry is a versatile reaction that takes place between two groups: **azide** and **alkyne** (terminal acetylene). It can be used for the synthesis of a variety of conjugates of "partner" biomolecules, once each contains or has been grafted respectively with an azide or an alkyne group. Virtually any biomolecules can be involved, and labeling with small molecules, such as fluorescent dyes, biotin, and other groups can be readily achieved. Both azido and alkyne groups are nearly never encountered in natural biomolecules. Hence, the reaction is highly bioorthogonal and specific.

Fluorescent – Azides can be used combined with [Click Chemistry reagents](#) such as :

-**Pentynoic acid activator** #[ZL5530](#) to modified amine containing biomolecules with an alkyne residue,

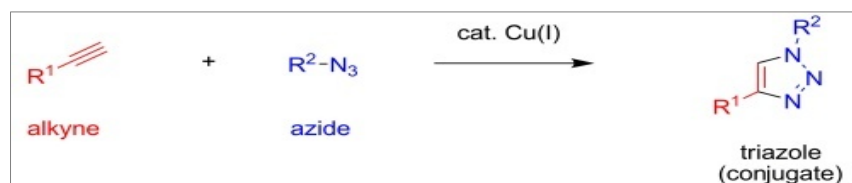
-**Copper(II)-TBTA complex** #[FY2780](#) to catalyse the conjugation reaction by click chemistry.

See also the superior [FluoProbes –Azide](#) conjugates, i.e. FP488-Azide #YE4970.

## Technical and Scientific Information

### Click Chemistry reaction

**Click Chemistry** is a reaction between azide and alkyne yielding covalent product - 1,5-disubstituted 1,2,3-triazole. This process is also known as CuAAC - Cu catalyzed alkyne azide cycloaddition.



Click Chemistry is based on copper catalysis. The catalyst is often introduced as Cu-TBTA complex.

Among the vast variety of organic reactions, Click Chemistry has been selected as a conjugation chemistry reaction because of several advantages:

► **It is very selective.** Click Chemistry reaction takes place only between azide and alkyne components. It does not interfere with most any other organic groups present in DNA and proteins being labeled, such as amino and carboxy groups.

► **There are no azides and alkynes in native biomolecules.** These groups should be specially introduced into DNA and proteins. Alkyne-containing DNA can be prepared with alkyne phosphoramidite<sup>±</sup> during standard oligo synthesis. Proteins labeled with azide and alkyne can be made using azide activated ester<sup>±</sup> and alkyne activated ester<sup>±</sup>.

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► **Click Chemistry takes place in water.** Aqueous DMSO, DMF, acetonitrile, alcohols, or pure water and buffers can be used for the reaction. The reaction is biocompatible and can take place in living cells.

► **Reaction is quick and quantitative.** Click Chemistry is a tool that allows preparation of nanomoles of conjugates in diluted solutions.

► **The reaction is pH-insensitive.** Unlike reaction of NHS esters with amines, and some other conjugation chemistries, there is no need to control pH in reaction mixture. There is no need to add any special buffer, acid or base - Click Chemistry works well in pH interval of 4-11.

► **Protocol is simple!** For example see our recommended DNA labeling protocol.

Click Chemistry thus became a tool for universal modification of DNA, proteins, conjugate preparation, and fluorescent labeling. FluoProbes provide reagents and protocols for the facile and efficient synthesis of diverse azido- and alkyne-labeled biomolecules, as well as reactive fluorescent dyes and other reporter groups. With these reagents, you can perform easy preparation of conjugates in your lab. Here are just several examples.

See the technical sheet [FT-FY2780](#) for more information on Click Chemistry and protocols.

### Related / associated products and documents

\*Fluorescent reagents for Click Chemistry: Azide conjugates of

- **Conventional dyes, activated by -Alkyne** ([tech sheet](#)), i.e. CR110 #DQP790, CR6G
- **FluoProbes dyes, activated by -Azide** ([tech sheet](#)), i.e. FP488-Azide #YE4970
- **CyDyes dyes, activated -Azide** ([tech sheet](#)), i.e. Cy3 azide #HO7250 and Cy5- Azide #CY5AZ0

\*Other Alkyne reagents

- **Pentynoic acid activator** [ZL5530](#) to modified amine containing biomolecules with an alkyne residue
- **Copper(II)-TBTA complex** [FY2780](#) to catalyse the conjugation reaction by click chemistry.
- **Alkyne Amidite, 5'-terminal** [ZL5500](#)
- **Alkyne Amidite, hydroxyprolinol** [ZL5510](#)

\*Other labels or modification reagents for Click Chemistry:

- Biotin – Azide conjugates, such as Biotin-PEG azide FJ6751 and Desthiobiotin-PEG azide FZ8440
- Azidobutyric acid NHS ester #[ZL5540](#)
- Aminoxy-PEG azide #FZ8700 ([JV2290](#))

\*See [BioSciences Innovations catalogue](#) and [e-search tool](#).

### 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

**Disclaimer :** Materials from FluoProbes are sold **for research use only**, and are not intended for food, drug, household, or cosmetic uses.

FluoProbes is not liable for any damage resulting from handling or contact with this product.

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