

## CF® Dye Tyramide

Fluorescent CF® Dye tyramides are used for tyramide signal amplification (TSA) for increasing immunofluorescence sensitivity in multicolor immunocytochemistry (ICC), immunohistochemistry (IHC), or in situ hybridization (ISH).



## Product Description

CF® Dye tyramide conjugates are used for tyramide signal amplification (TSA), a method for high-density labeling of a target protein or nucleic acid in situ.

- High-density labeling of a target protein or nucleic acid for enhanced immunofluorescence sensitivity
- Especially suited for the detection of low abundance targets
- Detection sensitivity of over 100-fold compared to conventional procedures
- Enables multiplex multicolor detection, not limited by antibodies from the same host species
- Wide selection of bright, photostable and water-soluble CF® Dyes, excellent options for fluorescent labeling
- CF®740 Tyramide is a unique near-IR conjugate compatible with automated staining

We also offer [Ready-to-Use Tyramide Amplification Buffer](#), [Tyramide Amplification Buffer Plus](#) (an improved formulation for enhanced TSA sensitivity), and [CF® Dye Tyramide Amplification Kits](#).

### Superior CF® Dyes

Biotium's next-generation CF® Dyes were designed to be highly water-soluble with advantages in brightness and photostability compared to other commercially available fluorescent dyes. Our CF® Dye Tyramide conjugates are available in 22 colors. Learn more about [CF® Dyes](#).

### CF®740 Tyramide: A Stable Near-IR Tyramide for Automated Staining

For researchers considering near-infrared detection, we recommend CF®740 tyramide over CF®750 and CF®754. This is because CF®750 is unstable in oxidizing amplification buffer and should be added to the buffer immediately before performing the staining reaction. The poor stability in oxidizing amplification buffer makes the dye challenging to use for automated staining platforms (ie. BOND RX) that require longer periods with the dye in buffer. CF®754 tyramide is stable in oxidizing amplification buffer, but the dye has a broad absorption peak that can cause channel spillover. CF®740 tyramide was developed to be stable in oxidizing amplification buffer when compared to Alexa Fluor® 750 and CF®750. In addition, CF®740 tyramide has a narrower absorption peak that minimizes spillover and therefore a superior option to CF®754 tyramide. Near-IR tyramide background staining may be tissue dependent and not suitable for all targets. In general, we would recommend using near-IR staining for more abundant targets in your panel.

### Tyramide Signal Amplification

TSA is a highly sensitive method for differential gene or protein analysis or detection of low-abundance targets, in fluorescent ICC, IHC, and FISH applications. An antibody- or streptavidin-HRP conjugate catalyzes the deposition of fluorescent dye/biotin tyramides on tyrosine residues on and adjacent to a target protein or nucleic acid sequence in situ. This results in high-density labeling of the target and significantly improves the detection sensitivity up to 100-fold compared to conventional methods. TSA is particularly advantageous for fluorescence detection in human tissue, where conventional ICC or FISH often fails to provide adequate signal over autofluorescence background. In applications where increased sensitivity is not required, TSA enables the use of significantly lower antibody or probe concentrations for the same level of detection sensitivity thereby reducing issues of non-specific binding or cross-reactivity. Furthermore, since binding of the tyramide label is covalent, a large number of targets can be detected in the same sample using multiple rounds of sequential TSA, in which the availability of antibodies from different host species is not a limitation. TSA also can be easily integrated with conventional immunostaining. Learn more about [Tyramide Signal Amplification](#).

### Product attributes

<b>Chemical reactivity (reacts with)</b>	Tyrosine residues
<b>Functional group</b>	Tyramide
<b>Assay type/options</b>	Tissue staining
<b>Storage Conditions</b>	Store at -10 to -35 °C, Protect from light
<b>Detection method/readout</b>	Fluorescence microscopy

# CF® Dye Tyramides

Product	Ex/Em	MW (g/mol)	Size	Catalog No.	Dye Features
CF®350 Tyramide	347/448 nm	~614	0.5 mg	<a href="#">92170</a>	<a href="#">CF®350 Features</a>
CF®405S Tyramide	404/431 nm	~689	0.5 mg	<a href="#">92197</a>	<a href="#">CF®405S Features</a>
CF®405M Tyramide	408/452 nm	~621	0.5 mg	<a href="#">96057</a>	<a href="#">CF®405M Features</a>
CF®405L Tyramide	395/545 nm	~1692	0.5 mg	<a href="#">92198</a>	<a href="#">CF®405L Features</a>
CF®430 Tyramide	426/498 nm	~707	0.5 mg	<a href="#">96053</a>	<a href="#">CF®430 Features</a>
CF®488A Tyramide	490/515 nm	~666	0.5 mg	<a href="#">92171</a>	<a href="#">CF®488A Features</a>
CF®514 Tyramide	516/548 nm	~1337	0.5 mg	<a href="#">92199</a>	<a href="#">CF®514 Features</a>
CF®532 Tyramide	527/558 nm	~804	0.5 mg	<a href="#">96066</a>	<a href="#">CF®532 Features</a>
CF®543 Tyramide	541/560 nm	~1006	0.5 mg	<a href="#">92172</a>	<a href="#">CF®543 Features</a>
CF®550R Tyramide	551/577 nm	~806	0.5 mg	<a href="#">96077</a>	<a href="#">CF®550R Features</a>
CF®555 Tyramide	555/565 nm	~1120	0.5 mg	<a href="#">96021</a>	<a href="#">CF®555 Features</a>
CF®568 Tyramide	562/583 nm	~833	0.5 mg	<a href="#">92173</a>	<a href="#">CF®568 Features</a>
CF®583R Tyramide	586/609 nm	~892	0.5 mg	<a href="#">96085</a>	<a href="#">CF®583R Features</a>
CF®594 Tyramide	593/614 nm	~848	0.5 mg	<a href="#">92174</a>	<a href="#">CF®594 Features</a>
CF®620R Tyramide	617/639 nm	~857	0.5 mg	<a href="#">92194</a>	<a href="#">CF®620R Features</a>
CF®640R Tyramide	642/662 nm	~951	0.5 mg	<a href="#">92175</a>	<a href="#">CF®640R Features</a>
CF®647 Tyramide	650/665 nm	~1104	0.5 mg	<a href="#">96022</a>	<a href="#">CF®647 Features</a>
CF®660R Tyramide	663/682 nm	~1007	0.5 mg	<a href="#">92195</a>	<a href="#">CF®660R Features</a>
CF®680R Tyramide	680/701 nm	~1031	0.5 mg	<a href="#">92196</a>	<a href="#">CF®680R Features</a>
CF®710 Tyramide	712/736 nm	~977	0.5 mg	<a href="#">96127</a>	<a href="#">CF®710 Features</a>
CF®725 Tyramide	729/750 nm	~1005	0.5 mg	<a href="#">96128</a>	<a href="#">CF®725 Features</a>
CF®740 Tyramide	742/767 nm	~1005	0.5 mg	<a href="#">96124</a>	<a href="#">CF®740 Features</a>
CF®750 Tyramide*	755/779 nm	~3040	0.5 mg	<a href="#">96052</a>	<a href="#">CF®750 Features</a>
CF®754 Tyramide	748/793 nm	~1000	0.5 mg	<a href="#">96090</a>	

\* CF®750 Tyramide is not stable in TSA buffer, and should be added to the buffer immediately before performing the staining reaction.

Alexa Fluor is a registered trademark of Thermo Fisher Scientific.

## References

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