biotium Glowing products for science

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Fluorescein Tyramide



Fluorescein tyramide can be used for tyramide signal amplification (TSA) for increasing immunofluorescence sensitivity in multicolor immunocytochemistry (ICC), immunohistochemistry (IHC), or in situ hybridization (ISH).

Product attributes

Excitation/Emission	492/514 nm (pH 9)
Chemical reactivity (reacts with)	Tyrosine residues
Functional group	Tyramide
Assay type/options	Tissue staining
Storage Conditions	Store at -10 to -35 °C, Protect from light
Detection method/readout	Fluorescence microscopy
Compound MW	~495

Product Description

Green fluorescent fluorescein 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

Also learn about TyraMax™ Amplification Dyes and Kits, Biotium's next generation tyramide dyes that offer brighter signal compared to the original CF® Dye Tyramides, and have advantages in brightness, photostability, and working solution stability compared to other TSA dyes. 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.

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.