Lumiprobe Corporation
201 International Circle, Suite 135
Hunt Valley, Maryland 21030
USA
Phone: +1 888 973 6353
Fax: +1 888 973 6354
Email: order@lumiprobe.com

AF 488 tyramide

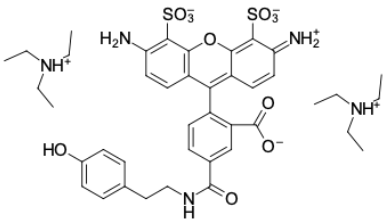
http://www.lumiprobe.com/p/af-488-tyramide-5

Thyramide signal amplification (TSA) is the most versatile and effective way to enhance the intensity of the fluorescent signal, used in immunohistochemistry (IHC), immunocytochemistry (ICC), and fluorescence *in situ* hybridization (FISH). The TSA method is based on the ability of horseradish peroxidase (HRP) in the presence of low concentrations of hydrogen peroxide to convert a labeled tyramine-containing substrate into an oxidized, highly reactive free radical that covalently binds to the tyrosine residues of protein molecules located next to it.

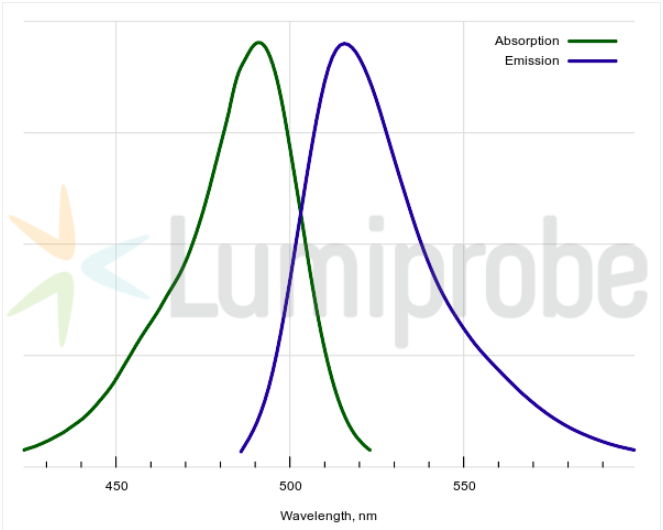
Compared to conventional procedures, the TSA method increases the sensitivity of immunofluorescent detection of target molecules by more than 100 times, making it particularly suitable for detecting low-concentration targets. In applications where increased detection sensitivity is not required, TSA can significantly reduce antibody or probe concentrations without loss of signal intensity, thereby reducing background staining due to cross-reactivity or non-specific binding of antibodies.

Since the binding of the tyramide label is covalent, tyramides of different dyes can be used in several sequential rounds of TSA staining to detect multiple targets in the same sample.

This tyramide is a conjugate of the water-soluble green fluorescent dye AF 488. AF 488 tyramide is a component of many tyramide signal amplification (TSA) kits. It can be used with any antibody or other molecules (streptavidin, etc.) conjugated to HRP to stain cells and tissues by immunofluorescence methods.



Structure of AF 488 tyramide



Absorption and emission spectra of AF 488

General properties

Appearance:	orange solid
Molecular weight:	856.03
Molecular formula:	$C_{41}H_{53}N_5O_{11}S_2$
Solubility:	soluble in water, DMSO, DMF
Quality control:	NMR ^{1}H and HPLC-MS (95+%)
Storage conditions:	24 months after receival at -20°C in the dark. Transportation: at room temperature for up to 3 weeks. Desiccate. Avoid prolonged exposure to light.

Spectral properties

Excitation/absorption maximum, nm:	495
ε, L·mol^{-1}·cm^{-1}:	71800
Emission maximum, nm:	519
Fluorescence quantum yield:	0.91

CF_{260}:	0.16
CF_{280}:	0.10