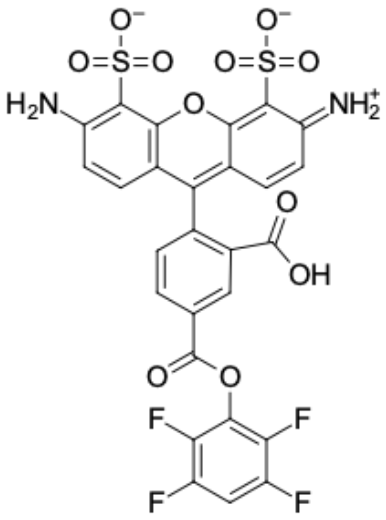
Lumiprobe Corporation
201 International Circle, Suite 135
Hunt Valley, Maryland 21030
USA
Phone: +1 888 973 6353
Fax: +1 888 973 6354
Email: order@lumiprobe.com

AF 488 TFP ester

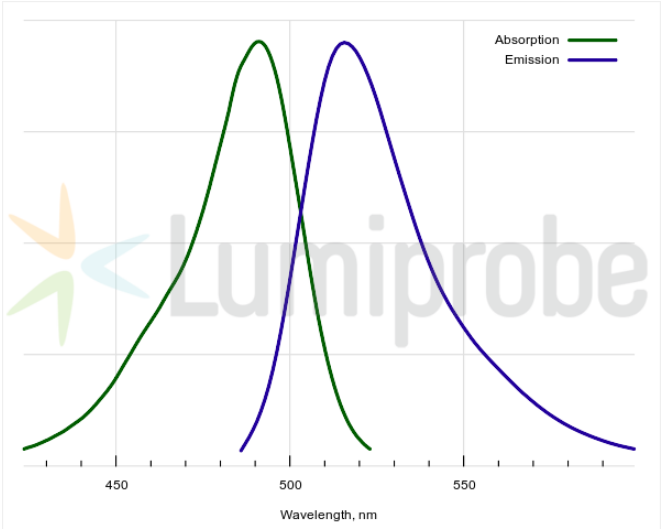
http://www.lumiprobe.com/p/af-488-tfp-ester

AF 488 is a bright and photostable dye well suited for labeling sensitive proteins and antibodies due to its hydrophilicity. AF 488 is a sulfonated derivative of Rhodamine 110 (R110), and, like other rhodamines, AF 488 is represented by two (5- and 6-) isomers. Both isomers have almost identical photophysical properties but require their separation since using a mixture of isomers leads to the «doubling» of the peaks of the labeled products during HPLC and electrophoretic separation. This product contains isomerically pure 5-AF 488.

Tetrafluorophenyl (TFP) esters belong to a group of activated esters widely used to conjugate fluorophores to the primary and secondary amines of biomolecules. Like hydroxysuccinimide (NHS) esters, they form a strong amide bond between the dye and the compound being modified; however, TFP esters are more stable at the basic pH values typically associated with reactions with amines and are also less susceptible to spontaneous hydrolysis.



Structure of AF 488 TFP ester



Absorption and emission spectra of AF 488

General properties

Appearance:	red crystals
Molecular weight:	681.53
CAS number:	2133404-55-2
Molecular formula:	$C_{27}H_{13}F_4N_2O_{11}S_2$-
Solubility:	good in water, DMF, DMSO
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.
Legal statement:	Product is offered and sold for research purposes only. Product is not tested for safety and efficacy in food, drug, medical device, cosmetic, no express or implied authorization to use for any other purpose, including, without limitation, in vitro diagnostic purposes, for humans or animals or for commercial purposes.

Spectral properties

Excitation/absorption maximum, nm:	495
ε, $L \cdot mol^{-1} \cdot cm^{-1}$:	71800
Emission maximum, nm:	519
Fluorescence quantum yield:	0.91
CF_{260}:	0.16

CF_{280}: 0.10