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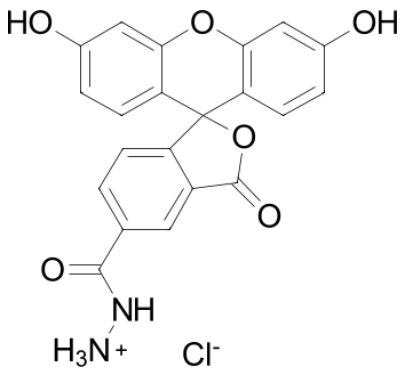
FAM hydrazide, 5-isomer

http://www.lumiprobe.com/p/fam-hydrazide-5

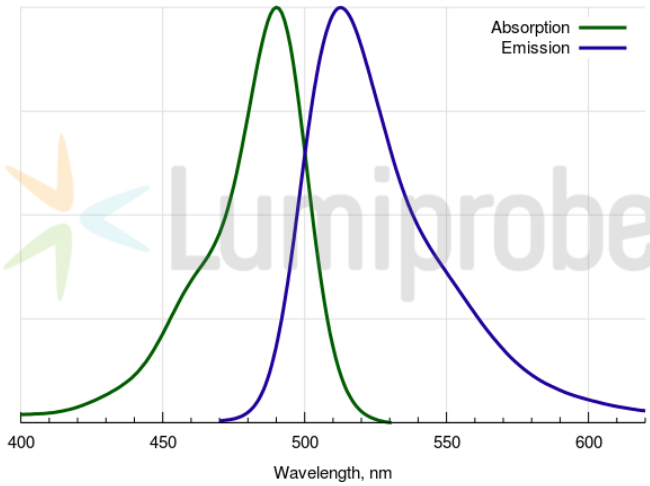
Many natural and synthetic molecules contain aldehyde or ketone carbonyl groups. These carbonyls react with hydrazides with the formation of hydrazones. The reaction is spontaneous at pH values around neutral, and the resulting hydrazones are very stable.

Compounds containing 1,2-diol function, like sugars, can be oxidized with sodium periodate with the formation of carbonyl compounds for the subsequent modification with hydrazides. This is an efficient method for the labeling of glycoproteins (like antibodies), and polysaccharides.

FAM hydrazide is a hydrazide label for the attachment of fluorescein, a bright dye for 488 nm channel, to carbonyl compounds.



Structure of 5-FAM hydrazide



Absorption and emission spectra of FAM

General properties

Appearance:	yellow solid
Mass spec M+ increment:	372.07
Molecular weight:	426.81
CAS number:	2183440-64-2
Molecular formula:	$C_{21}H_{15}N_2ClO_6$
IUPAC name:	Spiro[isobenzofuran-1(3H),9'-[9H]xanthene]-5-carboxylic acid, 3',6'-dihydroxy-3-oxo-, hydrazide, hydrochloride
Solubility:	good in ethanol, DMF, DMSO
Quality control:	NMR ^1H, HPLC-MS (95%)
Storage conditions:	Storage: 24 months after receival at -20°C in the dark. Transportation: at room temperature for up to 3 weeks. Avoid prolonged exposure to light. Desiccate.

Spectral properties

Excitation/absorption maximum, nm:	492
ε, $L \cdot mol^{-1} \cdot cm^{-1}$:	74000
Emission maximum, nm:	517
Fluorescence quantum yield:	0.93
CF_{260}:	0.22
CF_{280}:	0.17