

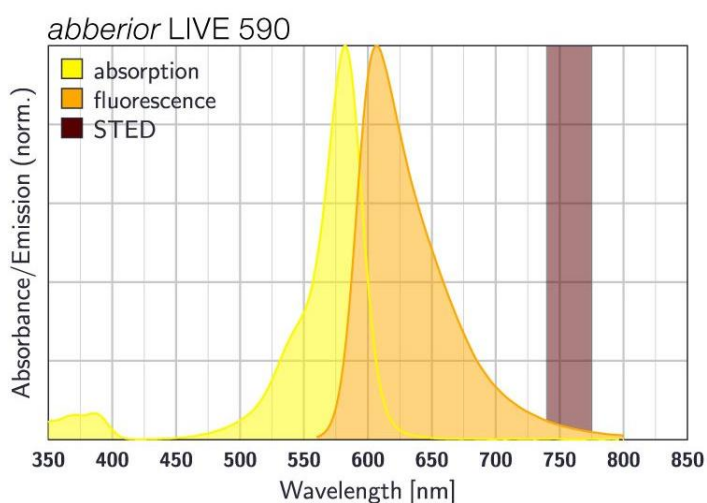
abberior LIVE 590, click, 30 nmol

Item number

LV590-0006-30NMOL

Description

abberior LIVE 590 is a member of a new class of fluorescent dyes for live-cell imaging exclusively offered by abberior. This dye is highly photostable and bright orange fluorescent dye, which can be effectively excited with excitation light between 550 - 610 nm. For STED, a depletion wavelength between 750 - 800 nm is recommended. Due to the unique isomeric structure the favored conformation is stabilized, leading to an enhanced cell permeability of the dye. abberior LIVE 590 can therefore be used in very low nanomolar concentration, reducing background and cytotoxicity effectively, allowing long-term STED and confocal imaging of living cells or tissue.



All our bright and photostable abberior LIVE click probes are modified by a tetrazine substrate as a functional group. They react with dienophiles such as trans-cyclooctene (TCO) or bicyclononyne (BCN) derivatives. Along with this bioorthogonal reaction, LIVE click probes are particularly useful in combination with unnatural amino acid (uAA) with a TCO or BCN side chain. The incorporation of uAAs prepares site-selective protein conjugates with a very specific and minimum-sized tag. abberior LIVE click is optimal for super-resolution microscopy within living cells, on cell surfaces, or for in vitro applications.

Properties

Absorption	λ_{ex} [nm]	585
Extinction Coefficient	ϵ_{max} [M ⁻¹ cm ⁻¹]	105000
Emission	λ_{em} [nm]	609
Quantum Efficiency	η_{fl} [%]	60
STED min.	$\lambda_{\text{STED min}}$ [nm]	750
STED max.	$\lambda_{\text{STED max}}$ [nm]	800
Fluorescence Lifetime	τ_{fl} [ns]	3.5
Charge	Δq	0
Molecular Weight	MW [g/mol]	597.7
Charge	Δq	0
Derivative/Conjugate	Click (Tetrazine)	

Photophysical properties were measured for carboxylic acid in PBS pH 7.4.

Storage

This product contains 1 vial of abberior LIVE 590 click as a lyophilized powder, a stock solution of 1 mM in DMF or DMSO is recommended. Depending on cell type, tissue, and expression rate of the unnatural amino acid a working solution of 10 nM to 1 μ M is advised. Upon arrival, the substances can be stored for up to one year at –20 °C. Shortly before the staining procedure dissolve the probe and Verapamil in DMF or DMSO. Once dissolved the stock solutions should be kept at –20 °C, protected from light and moisture.

- Note: Depending on solvent quality the shelf-life of the stock solutions might be significantly reduced compared to the substances in their solid form – even if stored at –20 °C.