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ExoBrite™ STORM CTB EV Staining Kits

Fluorescent cholera toxin subunit B (CTB) conjugates that are optimized for direct stochastic optical reconstruction microscopy (dSTORM) imaging of EVs and exosomes.



Product attributes

Colors Green, Orange-red, Far-red

Product Description

ExoBrite™ STORM CTB EV Stains incorporate a selection of CF® Dyes validated for stochastic optical reconstruction microscopy (dSTORM) and were developed for STORM imaging of extracellular vesicles (EVs).

Note: The name of this product has been revised from ExoBrite™ STORM EV Membrane Staining Kits.

Extracellular vesicles (EVs), including exosomes, are lipid-bound vesicles that are released from cells. EVs display specific surface proteins and can carry nucleic acids and other cargo, allowing them to transfer biological information between cells in different parts of the body. Therefore, EVs are increasingly studied for their potential use in drug delivery and medical diagnostic applications. Super-resolution microscopy techniques such as direct stochastic optical reconstruction microscopy (dSTORM) push beyond the diffraction limit of traditional light microscopy, allowing single-molecule resolution of subcellular structures, such as the proteins found on EVs.

ExoBrite™ STORM CTB EV Stains are optimally formulated fluorescent conjugates of cholera toxin subunit B (CTB), which binds to GM1 gangliosides that are commonly found on the surface of mammalian lipid rafts and EVs. The stains were developed for STORM imaging of EVs and incorporate a selection of our STORM-validated CF® Dyes. Unlike other lipophilic dyes traditionally used to stain EV membranes, ExoBrite™ STORM CTB EV Stains were formulated to show little to no background from aggregation in buffer only controls, allowing EVs to be accurately identified.

The ExoBrite™ STORM dyes CF@505, CF@583R, CF@647, and CF@680 have all been validated for use in dSTORM. In addition, [ExoBrite™560/585 CTB EV Stain](#) has also been validated for dSTORM on the ONI Nanoimager S Mark II together with fluorescent tetraspanin antibodies, allowing single-EV characterization studies.

ExoBrite™ STORM CTB EV Staining Kits

Product	Ex/Em (nm)	Laser Line(s) (nm)	Detection Channel	Size	Catalog Number
ExoBrite™ STORM CF@505 CTB EV Staining Kit	505/519	488	FITC	100 Labelings	30115-T
500 Labelings	30115				
ExoBrite™ STORM CF@583R CTB EV Staining Kit	583/609	555 or 561	Rhodamine or Texas Red®	100 Labelings	30116-T
500 Labelings	30116				
ExoBrite™ STORM CF@647 CTB EV Staining Kit	652/668	633-640	Cy@5	100 Labelings	30117-T
500 Labelings	30117				
ExoBrite™ STORM CF@680 CTB EV Staining Kit	681/698	633-640	Cy@5.5	100 Labelings	30118-T
500 Labelings	30118				

Validated EV Sources for ExoBrite™ CTB EV Stains

EV Source	Biotium Data	Customer Reported
A549 cells	High	
CHO cells	Low	
hASC (human adipose stem cells)		Low
HEK293T cells		High
HeLa cells	Low	
HUVEC (human umbilical vein endothelial cells)		Low
J774 cells	High	
Jurkat cells	High	
MCF-7 cells	High	
Plasma		Low
Raji cells	High	
Skeletal myoblasts		High
U2OS cells	Low	
U937 cells	Low	

Biotium also offers other ExoBrite™ EV Stains and ExoBrite™ Antibody Conjugates

ExoBrite™ staining can be combined with antibody staining (for example, antibodies against tetraspanin proteins CD9, CD63, & CD81), for multi-parameter analysis. Biotium offers a selection of validated [ExoBrite™ antibodies optimized for detection of EVs by flow cytometry or western blot](#). Biotium also offers [ExoBrite™ CTB EV Stains](#) validated for detection of purified or bead-bound EVs by flow cytometry.

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