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TrueBlack® Plus Lipofuscin Autofluorescence Quencher, 40X in DMSO

Quench lipofuscin autofluorescence in PBS, with minimal background.

Product attributes

Product Description

TrueBlack® Plus is a next-generation lipofuscin quencher developed by Biotium chemists. TrueBlack® Plus is water-soluble, so quenching can be performed in PBS instead of ethanol. It greatly reduces lipofuscin autofluorescence with minimal far-red background.

- Quenches lipofuscin with lower far-red background than our original TrueBlack® (23007)
- The only lipofuscin quencher that can be used in aqueous buffer instead of 70% EtOH
- Quenching in buffer allows longer incubation times for thick samples without shrinkage, is compatible with hydrophobic stains.
- No hazardous solvents
- Reduces autofluorescence from other sources like red blood cells and extracellular matrix
- Treat tissues before or after immunofluorescence staining

TrueBlack® Plus: A unique lipofuscin quencher

Autofluorescence is a major source of non-specific background fluorescence in tissue sections and some primary cell types. Sources of autofluorescence include aldehyde fixatives, tissue components with endogenous fluorescence (including extracellular matrix proteins, red blood cells, and macrophages), and lipofuscin, which consists of highly autofluorescent granules of oxidized proteins and lipids that build up in the lysosomes of cells with age. While usually brightest in the blue and green wavelengths, autofluorescence has broad spectrum fluorescence that can make detection of specific fluorescence signal in tissues virtually impossible unless it is quenched or masked.

Many treatments have been reported to reduce autofluorescence, including quenching of aldehydes with ammonium sulfate and Tris, bleaching with sodium borohydride, and quenching of autofluorescence with blue or black dyes. The lipophilic dye Sudan Black B is highly effective at masking autofluorescence from lipofuscin, but has the drawback of introducing red fluorescent background. Our original TrueBlack® Lipofuscin Autofluorescence Quencher (cat. no. 23007) was developed as an alternative to Sudan Black B. It effectively quenches lipofuscin autofluorescence with much lower background than Sudan Black B, but still introduces a low level of far-red background. Also, like Sudan Black B, treatment with original TrueBlack® quencher must be performed in 70% ethanol, which is incompatible with some staining protocols and specimen types.

TrueBlack® Plus was developed to allow lipofuscin quenching in aqueous buffer with even lower background than original TrueBlack®. Quenching in PBS allows longer incubation times for thick samples without shrinkage, and is compatible with hydrophobic stains.

Note: For best results, we recommend mounting samples with a glycerol-based medium like EverBrite™ Mounting Medium. See a list of compatible mounting media for TrueBlack® Plus.

Choose the right quencher for your application

Comparison of TrueBlack® Plus and our original TrueBlack® Lipofuscin Autofluorescence Quencher

Product	Catalog no.	Supplied as	Pros	Cons
TrueBlack® Lipofuscin Autofluorescence Quencher	23007	20X in DMF	• Complete quenching of lipofuscin autofluorescence • Ultra-low background in blue and green channels • Quenching takes only 30 seconds	• Introduces some red/far-red background • Quenching must be done in 70% EtOH • Some quenching of fluorescent dyes
	23011	30X in DMSO		
TrueBlack® Plus Lipofuscin Autofluorescence Quencher	23014	40X in DMSO	• Greatly reduces lipofuscin autofluorescence • Has lower red/far-red background than the original TrueBlack® • The only lipofuscin quencher that can be used in PBS and other aqueous buffers	• Titration recommended for optimal quenching • May not be as effective as the original TrueBlack® for high-lipofuscin samples • Some quenching of fluorescent dyes

References

Download curated list of TrueBlack® References