POLY-DTECH
Enhance Your Detection

Data sheet
BRIGHT-DTECH™

KIT DESCRIPTION

This kit is based on our lanthanide nanoparticle technology, which offers outstanding performance across a wide range of fluorescence-based applications, including immunoassays, lateral flow assays, dot blot, cell imaging, and flow cytometry. The Bright-Dtech™ reagent is intended for use as a fluorescent detection label in various assay formats. Detection is performed using Time-Resolved Fluorescence (TRF). Excitation and emission maxima (nm): **see table 1 on page 2**.

Supplied reagents and storage

Bright-Dtech™ ($1x10^{-8}$ M)	Store at 2-8°C
Dilution buffer	Store at 2-8°C

MATERIALS AND EQUIPMENT REQUIRED (NOT INCLUDED)

- Glass tubes with cap or low-protein-binding tubes.
- Precision micropipettes with disposable tips.
- Ultrasonic bath or vortex.
- Plate reader with TRF option.

RECOMMENDED WORKING SOLUTION PREPARATION

The working solution should be prepared freshly before each use.

1. Resuspend the Bright-Dtech™ nanoparticles by thoroughly mixing the tube by sonication (recommended) or vigorous vortexing.
2. In a glass tube or a low-protein binding tube, dilute the Bright-Dtech™ nanoparticles in the Dilution Buffer according to the recommended concentrations provided in the table below:
3. Close the tube tightly.
4. Sonicate for 1 minute at 4-15 °C. Alternatively, vortex for 1 minute at room temperature.

The Bright-Dtech™ working solution is now **ready to use**. For optimal performance, use the working solution immediately after preparation.

Application	Bright-Dtech concentration*	Dilution factor
FLISA/FRET	[$1x10^{-11}$ – $2x10^{-10}$ M]	1/1000 – 1/50
Lateral flow	[$1x10^{-10}$ – $1x10^{-9}$ M]	1/100 – 1/10
Dot-Blot	[$1x10^{-11}$ – $1x10^{-9}$ M]	1/1000 – 1/10

*Reader dependent. Optimal concentrations/dilutions should be determined by the end user.

Note: PBS is not recommended for use with Bright-Dtech™ nanoparticles.

Technical information: The procedure and buffer provided in this datasheet are intended as general guidelines. Optimal working conditions may vary depending on the protein. Further optimization of nanoparticle concentration, incubation conditions, buffer composition, and other assay parameters may be required for individual applications.

This kit is for **Research Use Only**, not for diagnostic procedures.

TABLE 1. Bright-Dtech™ Lanthanide Nanoparticle Specifications and Product Range

NP	REFERENCE	DESCRIPTION	EX/EM* (nm)	QUANTITY (For one reference)	DILUTION BUFFER (For one reference)
Tb (GREEN)	BDT545STD	Standard BDT 545	340 / 545	250 µL	50 mL
	BDT545STRP	Streptavidin conjugated BDT 545		500 µL	50 mL
	BDT545BIOT	Biotin conjugated BDT 545		1 mL	50 mL
	BDT545RAB	Goat anti-Rabbit IgG (H+L) coupled to BDT 545		1.5 mL	50 mL
	BDT545MOU	Goat anti-Mouse IgG (H+L) coupled to BDT 545		2 x 1.5 mL	2 x 50 mL
	BDT545GOA	Goat anti-Mouse IgG (H+L) coupled to BDT 545		3 x 1.5 mL	3 x 50 mL
	BDT545HUM	Goat anti-Goat IgG (H+L) coupled to BDT 545		4 x 1.5 mL	4 x 50 mL
Dy (YELLOW)	BDT575STD	Standard BDT 575	340 / 575	250 µL	50 mL
	BDT575STRP	Streptavidin conjugated BDT 575		500 µL	50 mL
	BDT575BIOT	Biotin conjugated BDT 575		1 mL	50 mL
	BDT575RAB	Goat anti-Rabbit IgG (H+L) coupled to BDT 575		1.5 mL	50 mL
	BDT575MOU	Goat anti-Mouse IgG (H+L) coupled to BDT 575		2 x 1.5 mL	2 x 50 mL
	BDT575GOA	Goat anti-Mouse IgG (H+L) coupled to BDT 575		3 x 1.5 mL	3 x 50 mL
	BDT575HUM	Goat anti-Goat IgG (H+L) coupled to BDT 575		4 x 1.5 mL	4 x 50 mL
Sm (ORANGE)	BDT600STD	Standard BDT 600	340 / 600	250 µL	50 mL
	BDT600STRP	Streptavidin conjugated BDT 600		500 µL	50 mL
	BDT600BIOT	Biotin conjugated BDT 600		1 mL	50 mL
	BDT600RAB	Goat anti-Rabbit IgG (H+L) coupled to BDT 600		1.5 mL	50 mL
	BDT600MOU	Goat anti-Mouse IgG (H+L) coupled to BDT 600		2 x 1.5 mL	2 x 50 mL
	BDT600GOA	Goat anti-Mouse IgG (H+L) coupled to BDT 600		3 x 1.5 mL	3 x 50 mL
	BDT600HUM	Goat anti-Goat IgG (H+L) coupled to BDT 600		4 x 1.5 mL	4 x 50 mL
Eu (RED)	BDT614STD	Standard BDT 614	340 / 590-614-690	250 µL	50 mL
	BDT614STRP	Streptavidin conjugated BDT 614		500 µL	50 mL
	BDT614BIOT	Biotin conjugated BDT 614		1 mL	50 mL
	BDT614RAB	Goat anti-Rabbit IgG (H+L) coupled to BDT 614		1.5 mL	50 mL
	BDT614MOU	Goat anti-Mouse IgG (H+L) coupled to BDT 614		2 x 1.5 mL	2 x 50 mL
	BDT614GOA	Goat anti-Mouse IgG (H+L) coupled to BDT 614		3 x 1.5 mL	3 x 50 mL
	BDT614HUM	Goat anti-Goat IgG (H+L) coupled to BDT 614		4 x 1.5 mL	4 x 50 mL
Nd (INFRARED)	BDT880STD	Standard BDT 880	340 / 880	250 µL	50 mL
	BDT880STRP	Streptavidin conjugated BDT 880		500 µL	50 mL
	BDT880BIOT	Biotin conjugated BDT 880		1 mL	50 mL
	BDT880RAB	Goat anti-Rabbit IgG (H+L) coupled to BDT 880		1.5 mL	50 mL
	BDT880MOU	Goat anti-Mouse IgG (H+L) coupled to BDT 880		2 x 1.5 mL	2 x 50 mL
	BDT880GOA	Goat anti-Mouse IgG (H+L) coupled to BDT 880		3 x 1.5 mL	3 x 50 mL
	BDT880HUM	Goat anti-Goat IgG (H+L) coupled to BDT 880		4 x 1.5 mL	4 x 50 mL
Yb (INFRARED)	BDT980STD	Standard BDT 980	340 / 980	250 µL	50 mL
	BDT980STRP	Streptavidin conjugated BDT 980		500 µL	50 mL
	BDT980BIOT	Biotin conjugated BDT 980		1 mL	50 mL
	BDT980RAB	Goat anti-Rabbit IgG (H+L) coupled to BDT 980		1.5 mL	50 mL
	BDT980MOU	Goat anti-Mouse IgG (H+L) coupled to BDT 980		2 x 1.5 mL	2 x 50 mL
	BDT980GOA	Goat anti-Mouse IgG (H+L) coupled to BDT 980		3 x 1.5 mL	3 x 50 mL
	BDT980HUM	Goat anti-Goat IgG (H+L) coupled to BDT 980		4 x 1.5 mL	4 x 50 mL

*Excitation and emission maxima in nanometers

For all technical support, commercial enquiries, or further information, contact the Poly-Dtech team.

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