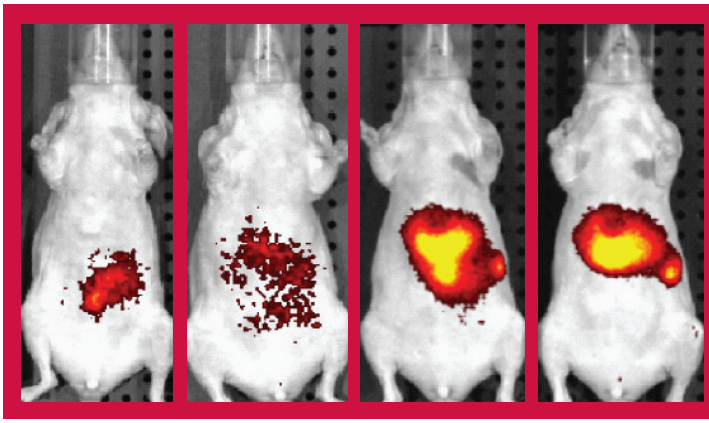
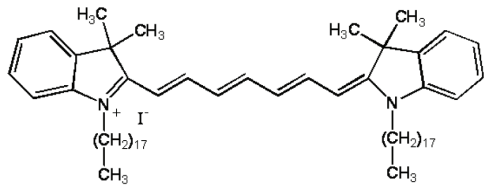


TRACK CELLS IN VIVO NON-INVASIVELY

XenoLight DiR

XenoLight DiR is a lipophilic, near infrared fluorescent cyanine dye ideal for staining the cytoplasmic membrane. The two long 18-carbon chains insert into the cell membrane, resulting in specific and stable cell staining with negligible dye transfer between cells.

XenoLight DiR in combination with PerkinElmer's IVIS® imaging systems can be used for non-invasive imaging of cell homing (T cells, stem cells etc.) *in vivo*. The near infrared property of this dye makes it ideal for *in vivo* imaging because of significantly reduced auto-fluorescence from the animal at higher wavelengths.



Product Name:
XenoLight DiR (DiIC18(7) or 1,1'-dioctadecyltetramethyl indotricarbocyanine Iodide)

Part Number: 125964

Molecular Information: $C_{63}H_{101}IN_2$

MW: 1013.4

Absorption\Emission: 748/780 nm

Ideal IVIS Filter Set: 710 ex/760 em

KEY APPLICATIONS

Cell Staining
XenoLight DiR can be applied to fluorescence staining of primary cells, such as embryonic stem cells, bone marrow derived stem cells, adipose derived stem cells, lymphocytes and erythrocytes, which will enable fluorescence detection of stained cells and their *in vivo* distribution. Since DiR has excitation and emission maxima in the NIR range, fluorescence detection of DiR stained cells will have less interference from auto-fluorescent tissue background, resulting in high sensitivity of detection.

PerkinElmer®
For the Better

In Vivo Imaging of DiR Stained Spleen T-cell Distribution

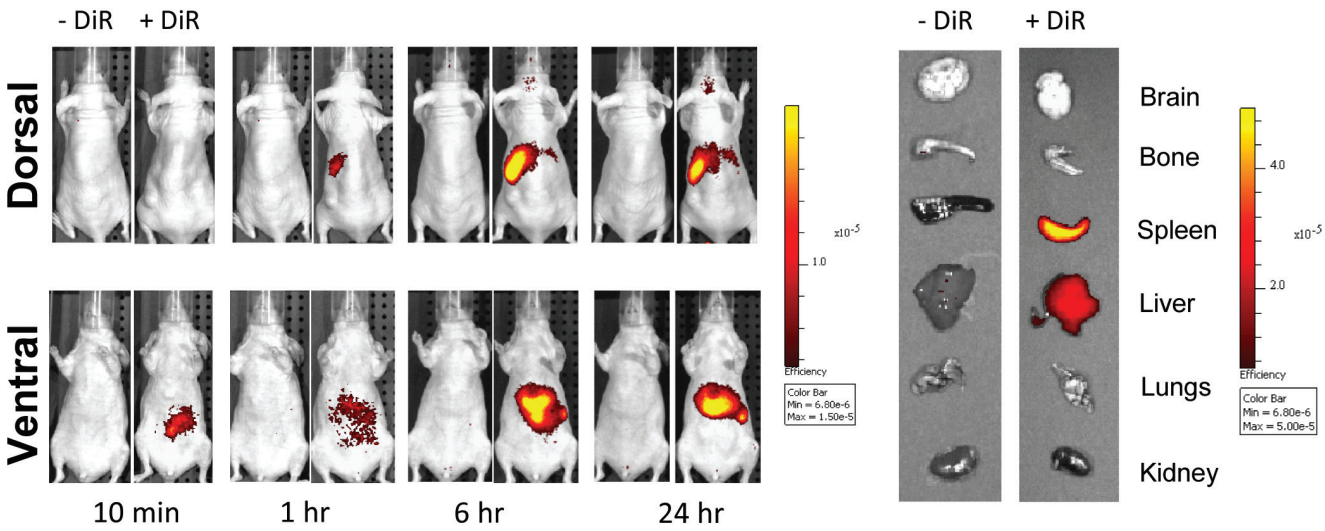


Figure 1. XenoLight DiR stock was prepared by dissolving 25 mg in 3 mL ethanol. Working solution of 320 µg/mL was prepared by diluting 199 µL of stock solution in 5 mL PBS. T-cells isolated from the spleen were incubated with 320 µg/mL DiR. After 30 min incubation, cells were spun down for 3 min at 1000 rpm at 4 °C resulting in a blue pellet. Cells were washed twice in PBS and injected intravenously (5 x 106 cells/mouse). Control group was injected with 5 x 106 cells/mouse in PBS. Mice were imaged with IVIS Spectrum at 10 min, 1 hr, 6 hr and 24 hrs post injection. Ideal filter set for DiR imaging is 710 nm excitation and 760 nm emission. Mice were imaged dorsally as well as ventrally at all time points. Brain, bones, spleen, liver, lungs and kidneys were harvested for *ex vivo* imaging 24 hrs post injection.

Non-invasive *in vivo* imaging showed the homing process of injected T cells to the liver and spleen in real time, which was confirmed by *ex vivo* imaging.

Reference:
Kalchenko et al., Use of lipophilic near-infrared dye in whole-body optical imaging of hematopoietic cell homing. Journal of Biomedical Optics, September/October 2006, Vol 11(5).

Learn more at www.perkinelmer.com/invivoreagents

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