

MONITOR TUMORS NON-INVASIVELY

XenoLight RediJect 2-DG-750 Probe

XenoLight RediJect 2-DeoxyGlucosone (DG)-750 is a fluorescent probe for *in vivo* targeting of tumors that typically exhibit elevated glucose uptake rate in comparison to surrounding tissues. To achieve maximum glucose targeting and enhanced tumor uptake, the probe has been designed to contain four 2-DG molecules per dye molecule. As indicated in Figure 1, RediJect 2-DG-750 probe showed specific accumulation to LL-2 tumors shortly after delivery. In addition, specific tumor labeling with the RediJect 2-DG-750 probe has also been demonstrated with Breast (MDA-MB-231) Prostate (PC-3M) and Lung (NCI-H460) tumors, further validating the utility of this probe as a generic fluorescence reagent for *in vivo* tumor targeting.

- Novel ready-to-use probe to monitor glucose uptake *in vivo* non-invasively
- Dispensed to image 5 animals (explorer kit) or 20 animals (standard kit)
- Maximum glucose targeting and enhanced tumor uptake
- *In vivo* imaging quality, validated on IVIS imaging systems



Available Kits

- P/N 760561- Explorer Kit (Image 5 animals/kit)
- P/N 760562- Standard Kit (Image 20 animals/kit)
- P/N 760567- 2DG-750 Control Dye

PROPERTIES:

Color and Form: Clear blue colored solution in 1x PBS

Concentration: 10 nmoles/100 μ L

Shipping Conditions: The kit will be shipped in cold gel packs to avoid temperature variations

Volume per Vial:

Explorer kit: 1 sterile amber vial containing 600 μ L of 10 nmoles/100 μ L probe

Standard kit: 4 sterile amber vials containing 600 μ L of 10 nmoles/100 μ L probe

Storage and Handling: Store the 2-DG-750 probe at 4 °C and protect from light. For *in vivo* imaging studies we recommend an intravenous injection of 100 μ L/mouse. Allow the probe to warm up to room temperature before injection in an animal.

DYE CHARACTERISTICS:

Color and Form:

Peak Excitation: 750 nm

Peak Emission: 780 nm

Ideal IVIS Spectrum Filter Sets:

Ex 745 nm/Em 820 nm

Alternatively you can also use the spectral unmixing filter sets using imaging wizard program in the Living Image® software.

In Vivo Detection of Glucose Uptake with the 2-DG-750 Probe

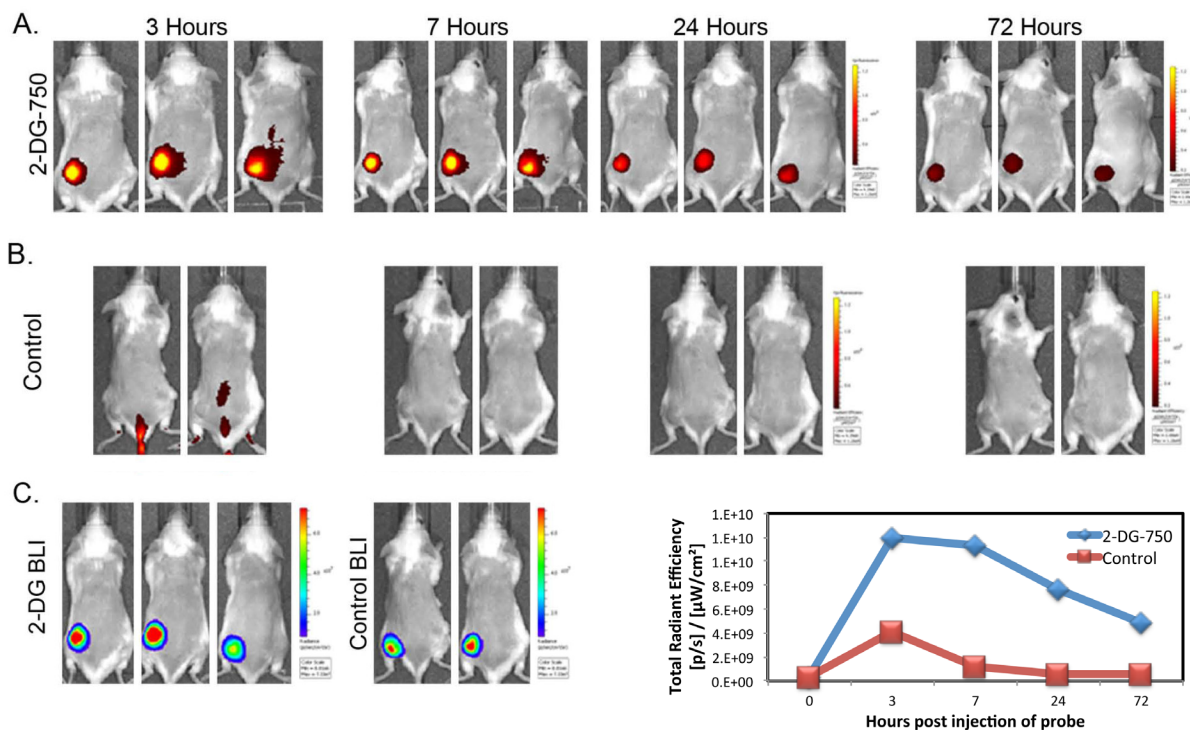


Figure 1. C57 BL/6 albino mice with s.c. with 1×10^6 LL2-luc tumor cells. At 2 weeks, tumors were approximately 200 mm³. Mice were intravenously injected with 10 nmole of 2-DG-750 probe or control 750 dye and imaged at 3, 7, 24 and 72 hours with IVIS Spectrum (Ex745 nm/Em820 nm). Mice injected with the 2-DG-750 probe showed specific accumulation of the probe to the tumor sites. Quantification showed a peak signal at 3 hours and the tumor remained labeled at 72 hours. In comparison, mice that were injected with 750 control dye showed no specific targeting at the tumor site at 3 hours. Bioluminescence imaging showed similar luciferase activity in all the mice correlating with tumor volume.

In Vivo Detection of Bone metastasis with 2-DG-750

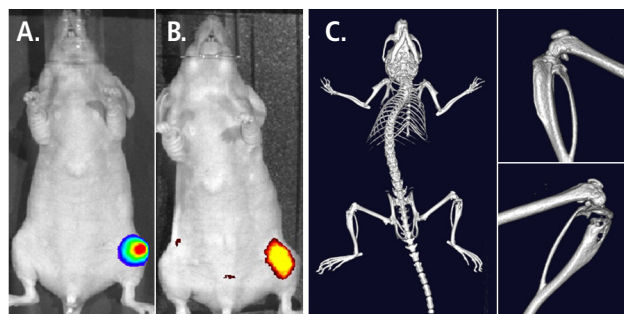


Figure 2. Nu/nu mice were injected with MDA-MB-231-luc-D3H2Ln cell line by intracardiac injection. Few weeks post implantation of cells bioluminescence imaging shows cells metastasizing to the bone (A). Rediject 2-DG-750 probe was injected intravenously and mice were imaged 3 hours post injection. The fluorescence image shows clear targeting to the tumor (B). MicroCT images taken by Quantum FX clearly shows bone damage on the metastatic site (C).

For laboratory use only. These products are intended for animal research only and not for use in humans.

Learn more at www.perkinelmer.com/invivoreagents

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