

# MONITOR COX-2 MEDIATED INFLAMMATION NON-INVASIVELY

## XenoLight RediJect COX-2 Probe

**XenoLight RediJect COX-2 Probe** is a novel fluorescent imaging probe for pre-clinical research that specifically detects the cyclooxygenase-2 (COX-2) biomarker non-invasively *in vivo* as well as in *ex vivo* tissue analysis applications. PerkinElmer's RediJect COX-2 probe provides the ability to non-invasively detect COX-2 in early-stage cancer cells, with a level of sensitivity and accuracy not attainable by conventional methods.

The RediJect COX-2 probe is very specific, with good signal to background ratios, in targeting tumors that only over express the COX-2 biomarker. Images shown in Figure 1 clearly show specific targeting to HT-29 (COX-2 positive) tumors and not targeting to HCT-116 (COX-2 negative) tumors. The specificity is also confirmed *in vitro* with Nuance Multispectral imaging system (Figure 1).

- Novel ready-to-use probe to monitor COX-2 *in vivo* non-invasively
- Dispensed to image 5 animals (explorer kit) or 20 animals (standard kit)
- Monitor COX-2 *ex vivo* in tissue samples using PerkinElmer's Nuance Multispectral imaging systems
- *In vivo* imaging quality, validated on IVIS® and Nuance™ imaging systems



### Available Kits

- P/N 133316 - Explorer Kit (Image 5 animals/kit)
- P/N 133314 - Standard Kit (Image 20 animals/kit)
- P/N 133349 - COX-2 Control dye

### PROPERTIES:

**Color and Form:** Dark pink colored solution in 60% DMSO

**Concentration:** 500 µg/mL

**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 550 µL of probe at 500 µg/mL

Standard kit: 4 sterile amber vials containing 550 µL of probe at 500 µg/mL

**Storage and Handling:** Store the COX-2 probe at 4 °C and protect from light. For *in vivo* imaging studies we recommend an intraperitoneal (i.p.) injection of 2 mg/kg (equivalent to 100 µL of probe for 25 g mouse). Allow the probe to warm up to room temperature before injection in an animal.

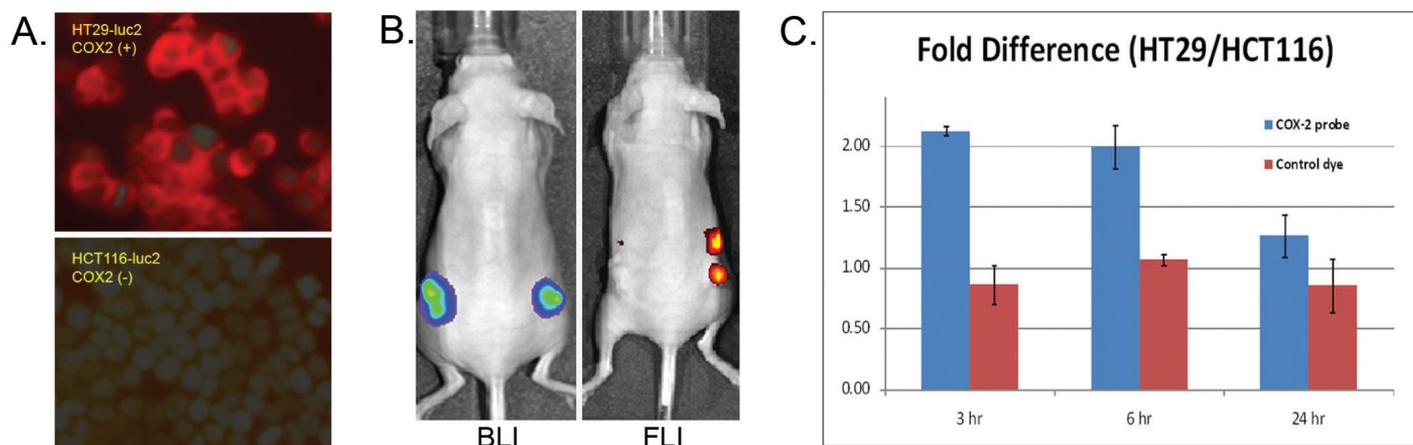
### DYE CHARACTERISTICS:

#### Peak Excitation:

581 nm, Peak Emission: 605 nm  
Ideal IVIS Spectrum Filter Sets:  
Ex 570 nm/Em 620 nm

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

## In Vivo and In Vitro Specificity of the COX-2 Probe



**Figure 1.** (A) *In vitro* binding specificity of RediJect COX-2 probe to COX-2 positive HT29 cells and no targeting to COX-2 negative HCT116 cells using Nuance FX multispectral imaging system. (B) Nu/Nu mice were s.c. injected with  $2 \times 10^6$  of HCT116 (left flank) and HT29 (right flank) tumor cells. Most of tumors were approximately  $100 \text{ mm}^3$  at day 16, when mice were injected with either RediJect COX-2 Probe (i.p.) or control dye. Mice were imaged at 3, 6 and 24 hours after injection with IVIS Spectrum (Ex570, Em620). Images shown were taken at 3 hours. COX-2 positive HT29 tumor showed preferential binding by the probe whereas the COX-2 negative HCT116 showed very little binding. Quantification of fluorescence signal from the tumors showed a steady decrease of the fluorescence signal at the 6 and 24 hours post injection. (C) A 2-fold difference between the COX-2 positive HT29 and COX-2 negative HCT116 was observed in RediJect COX-2 injected mice at 3 and 6 hours.

### Reference:

Md. Jashim Uddin, Brenda C. Crews et al. (2010). "Selective Visualization of Cyclooxygenase-2 in Inflammation and Cancer by Targeted Fluorescent Imaging Agents". *Cancer Res.* May 1, 2010 70; 3618

### Label License:

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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](http://www.perkinelmer.com/invivoreagents)

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