XenoLight RediJect Inflammation Probe

**XenoLight RediJect Inflammation Probe** is a chemiluminescent reagent for monitoring inflammation. This probe is offered in a ready-to-use format and can be conveniently applied to study myeloperoxidase (MPO) activity of activated phagocytes. The RediJect Inflammation Probe will allow for longitudinal tracking of MPO level and inflammation status, in vivo, in a variety of disease models. This probe has been validated in vivo in detecting rheumatoid arthritis and contact hypersensitivity. Given the probe’s peak emission is 425 nm, the signal is significantly attenuated when imaging at depth, posing challenges for detecting inflammation in deep tissues.

- Novel ready-to-use probe to monitor phagocyte mediated inflammation non-invasively
- Dispensed to image 5 animals (explorer kit) or 20 animals (standard kit)*
- Includes a fluorescent tracer to validate substrate injection
- Improved sensitivity due to the chemiluminescent read-out
- In vivo imaging quality validated on IVIS imaging systems

**Part Number:**
- 760535: Explorer kit (Image 5 animals/kit)
- 760536: Standard kit (Image 20 animals/kit)

**Color and Form:** Slightly Green Colored solution dissolved in 1x PBS

**Concentration:** 40 mg/mL

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

**Volume per Vial:**
- Explorer kit: 1 sterile amber vial containing 850 μL of 40 mg/ml probe
- Standard kit: 4 sterile amber vials containing 850 μL of 40 mg/ml probe

**Storage and Handling:** Store at ≤ -20 °C, thaw the vial in a 37 °C water bath just before experiment, vortex and it is ready to use. Repeated freeze thaw is not recommended.
For in vivo imaging studies, we recommend intraperitoneal (i.p.) injection at 200 mg/kg (150 μL/mouse*). Load a 1mL syringe directly from the vial and inject using a 25 gauge needle. Best time to image is 10 minutes post i.p. injection of the probe. We recommend exposure time of 5 minutes for better sensitivity. For fluorescence imaging, select exposure time between 1 and 5 seconds and image using 745 nm excitation and 800 nm emission filter set (ICG filter set for IVIS Lumina). Select an route of injection (ROI) on the scruff of the neck on the dorsal side to evaluate the accuracy of your intraperitoneal (i.p.) injection. For ventral imaging, ROI should be drawn around the thoracic region.

For imaging at depth, this probe can be injected intravenously at 200 mg/kg (150 μL/mouse*). With intravenous (i.v.) injections, the best time to image is immediately post injection with a 5 min acquisition. For rats we recommend the same dosage of 200mg/kg.

* Calculations based on a 30g mouse

Detection of Inflammation in a Rheumatoid Arthritis (RA) Model

DBA1 mice were induced to develop RA with Atherogen monoclonal antibody cocktail (Chondrex, Inc). Mice were monitored for arthritis development by conventional visual scoring method (red curve, bottom panel) and by quantifying the chemiluminescent signal from the diseased tissues (blue curve, bottom panel). On day 11, the diseased mice showed severe inflammation in the extremities, which correlated with an increase of chemiluminescent signal at the knee joints, front and rear paws (Top left) when compared to control mice (Top right panel). Images were taken 10 minutes post i.p. injection of the probe with IVIS Spectrum (5 minutes exposure time).

Instantly Validate Substrate Injection Quality

Zymosan was used to induce experimental sterile inflammation. In macrophages, Zymosan-induced responses include the induction of proinflammatory cytokines, arachidonate mobilization, protein phosphorylation, and IP3 formation. The right leg of each mouse injected intra-articularly with 10 μL of Zymosan A (30mg/mL suspended in 5% glucose solution). Mice were injected with 200mg/kg of RediJect Inflammation Probe (i.p.) and imaged 10 minutes post injection. Image taken at 48 hours post Zymosan injection. Orange circle on the BLI images show inflammation caused by Zymosan. Fluorescent images to validate substrate injection were taken right before BLI imaging. Mice with incorrect i.p. injection showed greater than 65% reduction in the fluorescent signal as shown in the chart.

PerkinElmer in vivo imaging reagents are intended for animal research and not for use in humans.

Learn more at www.perkinelmer.com/invivoreagents