

Caution: For Laboratory Use. A product for research purposes only.

## ProSense® 750 FAST *IN VIVO* FLUORESCENT IMAGING AGENT

**Product Number: NEV11171**

**DESCRIPTION:** *ProSense*® 750 FAST is part of a family of activatable fluorescent imaging agents comprising a novel architecture termed F.A.S.T. (Fluorescent Activatable Sensor Technology) that confers an improved pharmacokinetic profile with earlier imaging time points. This architecture offers higher target specific signal with reduced background while also reducing the optimal imaging time after injection.

*ProSense* 750 FAST is a protease-activatable, pan-cathepsin fluorescent *in vivo* imaging agent that is activated by key disease-associated proteases such as Cathepsin B, L, S, K, V and D. *ProSense* 750 FAST is not cleaved by trypsin or plasmin. Cathepsins are produced by inflammatory and tumor cells. *ProSense* 750 FAST is optically silent in its un-activated state and becomes highly fluorescent following protease-mediated activation. *ProSense* 750 FAST has a half life in plasma of 30 minutes. *ProSense* 750 FAST may be used to study disease onset and progression in animal models of oncology, inflammation and atherosclerosis.

### MATERIAL (Needs to be reconstituted)

**CONTENTS:** *ProSense* 750 FAST: Each vial contains 48 nmol of *ProSense* 750 FAST in dry solid form. *ProSense* 750 FAST has been filtered through a 0.2 µm filter prior to drying. Reconstitute *ProSense* 750 FAST with 1.2 mL of 1 x PBS before injecting into animals. The packaged material provides sufficient reagent for imaging approximately 10 mice (weighing ~25 grams each) when using the recommended dose of 4 nmol (100 µL) of *ProSense* 750 FAST per mouse.

**PROPERTIES:** The physical properties of *ProSense* 750 FAST can be found in **Table 1**.

### STORAGE & HANDLING:

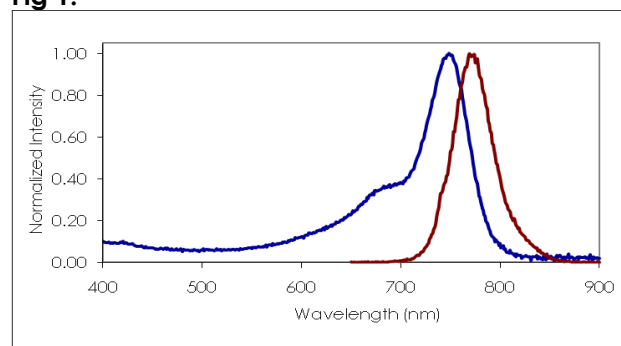
- Upon receipt, *ProSense* 750 FAST should be **IMMEDIATELY STORED AT 2 – 8 °C AND PROTECTED FROM LIGHT**.
- When stored and handled properly, *ProSense* 750 FAST is stable for up to twelve months.
- Before opening the vial check to ensure that all of the solid material is at the bottom of the vial.
- After reconstituting with PBS, gently swirl the solution to ensure that the solid is fully in solution.
- **Once reconstituted with 1 x PBS, the solution is stable up to 7 days when stored at 2 – 8 °C and protected from light.**

**Table 1.** *ProSense* 750 FAST Properties

Property	Specification
MW	~22,500 g mol <sup>-1</sup>
Fluorescence <sup>1</sup>	
• Excitation	750 nm
• Emission	770 nm
Purity <sup>2</sup>	>95 %
Appearance	Blue Solid

1. Absorbance and fluorescence emission maxima of *ProSense* 750 FAST in 1 x PBS.
2. As determined by HPLC and measuring absorbance at 750 nm.

**Fig 1.**



Absorbance (blue) and Emission (red) spectra of *ProSense* 750 FAST in 1 x PBS

- Allow *ProSense 750 FAST* imaging agent to equilibrate to room temperature before injecting into animals.

## IN VIVO IMAGING AND APPLICATIONS:

The recommended procedure for *in vivo* imaging with *ProSense 750 FAST* is intravenous administration (for example *via* tail vein injection) and imaging **6-24 hours post injection**.

- **Imaging in Oncology:** *ProSense 750 FAST* can be used as a marker for tumor progression in animal tumor models. Optimal signal may be found in 4T1 tumors from 6-24h with extremely high target to background ratios. Washout of signal in tissue occurs by 72h.
- **Imaging in Inflammation:** *ProSense 750 FAST* can be used as a marker for the inflammatory response due to increased macrophage activity in animal models. In mouse models significantly higher *ProSense 750 FAST* signal in the inflamed footpad of DO11.10 mice was found to be associated with the presence of inflammatory cells.

## SELECTED REFERENCES:

- Weissleder, R., Tung, C.H., Mahmood, U., Bogdanov, A. *In vivo imaging of tumors with protease-activated near-infrared fluorescent probes*. *Nature Biotechnology* **17**, 375-378 (1999)

## NOTES:

- *PerkinElmer's ProSense 750 FAST* is intended for research purposes only and is not for human use. It must be used by or directly under the supervision of a technically qualified individual experienced in handling potentially hazardous materials. Please read the Material Safety Data Sheet (MSDS) provided for this product.
- Several of *PerkinElmer's* products and product applications are covered by U.S and foreign patents and patents pending. Our products are not available for resale or other commercial uses without a specific agreement from *PerkinElmer*.

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