

Fluorescent Imaging Agent

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

Cat B 750 FAST™

Product Number: NEV11098

DESCRIPTION: *Cat B 750 FAST™* is a member 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 a broader range of early imaging time points. This architecture also offers higher target specific signal with reduced background.

Cat B 750 FAST is a Cathepsin B activatable agent that is optically silent upon injection and produces fluorescent signal after cleavage by Cathepsin B produced by inflammatory cells and tumor cells. *Cat B 750 FAST* may be used to monitor inflammation, tumor activity, progression of disease and the efficacy of therapeutic treatment in applications such as oncology, inflammation, cardiovascular disease and some neurological diseases.

MATERIAL (*Needs to be reconstituted*)

CONTENTS: Each vial contains 48 nmol of *Cat B 750 FAST* in dry solid form. *Cat B 750 FAST* has been filtered through a 0.2 µm filter prior to drying. Reconstitute *Cat B 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 nmols (100 µL) of *Cat B 750 FAST* per mouse. Some applications like Atherosclerosis imaging require a higher dose. (see note below)

PROPERTIES: The physical characteristics of *Cat B 750 FAST* can be found in **Table 1 and Figure 1.**

STORAGE & HANDLING:

- Upon receipt, *Cat B 750 FAST* should be **STORED AT -20 °C AND PROTECTED FROM LIGHT.**
- When stored and handled properly, *Cat B 750 FAST* is stable for up to 12 months in dry solid form.
- 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.

Table 1. *Cat B 750 FAST* Characteristics

Property	Specification
MW	23,000 g mol ⁻¹
Fluorescence ¹	
• Excitation	750 nm
• Emission	770 nm
Absorbance	750 nm (activated)
Purity ²	>95 %
Appearance	Blue Solid

1. Absorbance and fluorescence maxima of activated *Cat B 750 FAST* in 1x PBS.
2. As determined by RP-HPLC and measuring absorbance at 750 nm.

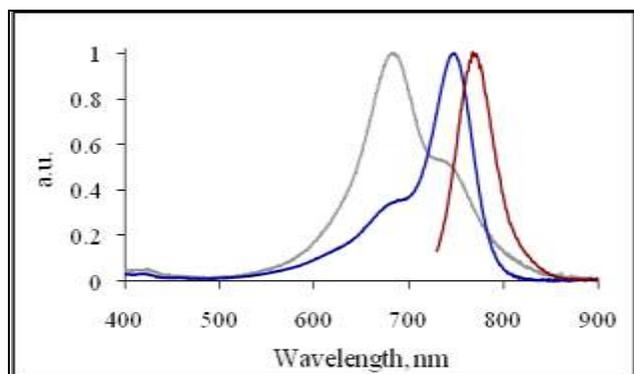


Figure 1. Normalized absorbance (grey), excitation (blue) and fluorescence emission (red) spectra of *Cat B 750 FAST* in 1x PBS.

- **Once reconstituted with 1 x PBS, the solution is stable up to 10 days when stored at 2-8 °C and protected from light.**

IN VIVO IMAGING AND APPLICATIONS:

- Cathepsin B is a cysteine protease involved in the degradation of the extracellular matrix and may be one of the key factors in cancer progression. Cathepsin B correlates with invasiveness and metastatic capabilities in many tumors. In breast cancer specifically, high expression levels of cathepsin B have been linked to highly aggressive tumors and poor clinical outcome. Cathepsin B is also upregulated in a variety of inflammatory cells (including eosinophils, neutrophils, and macrophages), and may provide an inflammation readout that indicates the potential vulnerability of Atherosclerotic plaques in Cardiovascular disease.
- The generally recommended procedure for *in vivo* imaging with *Cat B 750 FAST* is administration via intravenous injection and imaging **6 hours post injection**. Earlier and later time points may be appropriate for some disease models, and the optimal imaging time point for any application should be determined empirically. **Some applications like imaging of atherosclerotic plaques require an 8 nmol dose and may benefit from a later imaging time point.**
- *Cat B 750 FAST* enables imaging of Cathepsin B activity in applications including:
 - Cardiovascular disease,
 - Oncology
 - Inflammation
 - Certain neurological diseases

NOTES:

- *PerkinElmer's Cat B 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.
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