TECHNICAL DATA SHEET

Fluorescent Imaging Agent

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

Cat K™ 680 FAST

Product Number: NEV11000

DESCRIPTION: *Cat K™ 680 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 earlier imaging time points. This architecture offers higher target specific signal with reduced background while also reducing the optimal imaging time after injection.

Cat K 680 FAST is a Cathepsin K (Cat K) activatable agent that is optically silent upon injection and produces fluorescent signal after cleavage by disease related Cathepsin K. Cat K is highly expressed in osteoclasts, suggesting a specialized role in bone resorption. Cat K is found extracellularly along the bone and cartilage and intracellularly in lysozomes of osteoclasts attached to the bone. In addition to expression by osteoclasts, Cat K is also expressed by a broad range of other cell types including ovarian cells, colonic tissue, alveolar and bronchial epithelial cells, synovial fibroblasts, breast cancer cells, macrophages.

MATERIAL ***(Needs to be reconstituted)***

CONTENTS: Each vial contains 24 nmol of *Cat K 680 FAST* in dry solid form. *Cat K 680 FAST* has been filtered through a 0.2 µm filter prior to drying.
Reconstitute *Cat K 680 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 2 nmol (100 µL) of *Cat K 680 FAST* per mouse.

PROPERTIES: The physical characteristics of *Cat K 680 FAST* can be found in **Table 1 and Figure 1**

Table 1. *Cat K 680 FAST Characteristics*

Property	Specification
MW	8500 g mol^{-1}
Fluorescence[1] • Excitation • Emission	 675 nm 693 nm
Absorbance	675 nm (activated)
Purity[2]	>95 %
Appearance	Dark Blue solid

1. Absorbance and fluorescence maxima of *Cat K 680 FAST* in 1x PBS.
2. As determined by RP-HPLC and measuring absorbance at 675 nm.

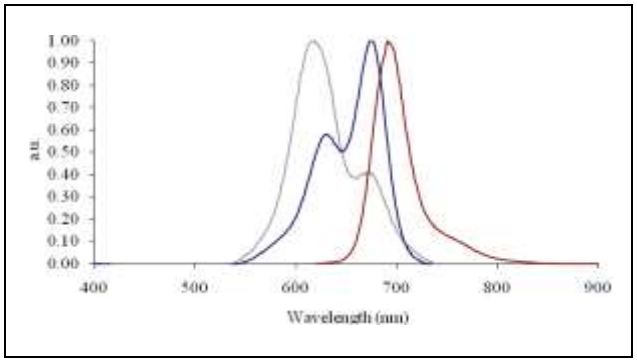

Figure 1. Normalized absorbance (grey), excitation (blue) and fluorescence emission (red) spectra of *Cat K 680 FAST* in 1x PBS.

STORAGE & HANDLING:

- Upon receipt, *Cat K 680 FAST* should be **IMMEDIATELY STORED AT 2-8 °C AND PROTECTED FROM LIGHT.**
- When stored and handled properly, *Cat K 680 FAST* is stable for up to 1 year 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.

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

IN VIVO IMAGING AND APPLICATIONS:

- The generally recommended procedure for *in vivo* imaging with *Cat K 680 FAST* is administration via intravenous injection and imaging **6 hours post injection.**
- *Cat K 680 FAST* enables imaging of Cathepsin K activity in Oncology applications involving metastasis to the bone as well as a broad range of bone applications including osteoporosis and bone changes following arthritis

NOTES:

- *PerkinElmer's Cat K 680 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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