TECHNICAL DATA SHEET

Fluorescent Imaging Agent

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

Neutrophil Elastase 680 FAST™

Product Number: NEV11169

DESCRIPTION: *Neutrophil Elastase 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 a broader range of early imaging time points. This architecture also offers higher target specific signal with reduced background.

Neutrophil Elastase 680 FAST is a neutrophil elastase activatable agent that is optically silent upon injection and produces fluorescent signal after cleavage by elastase produced by neutrophil cells. Neutrophil elastase is a key protease involved in acute lung injury, acute respiratory distress syndrome, as well as many other inflammatory processes such as emphysema, cystic fibrosis, COPD, wound healing, rheumatoid arthritis, ischemia-reperfusion and many others. *Neutrophil Elastase 680 FAST* is a selective neutrophil elastase-activatable agent designed for imaging of this serine protease both *in vitro* and *in vivo*. The half life in plasma of *Neutrophil Elastase 680 FAST* is 4 hours.

Table 1. *Neutrophil Elastase 680 FAST* Characteristics

Property	Specification
MW	~43,000 g mol^{-1}
Fluorescence[1]	
• Excitation	675 nm
• Emission	693 nm
Purity[2]	>95 %
Appearance	Blue Solid

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

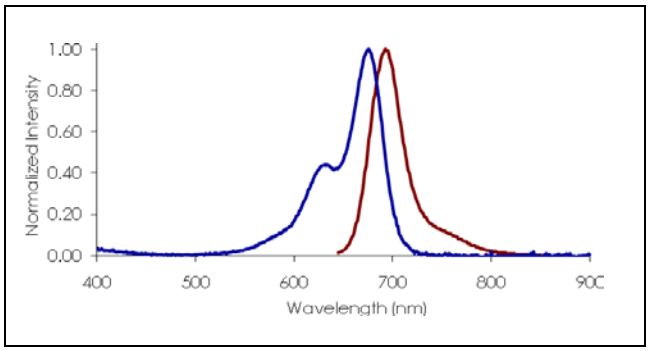

Figure 1. Absorbance (blue) and fluorescence emission (red) spectra of *Neutrophil Elastase 680 FAST* in 1x PBS.

MATERIAL *(Needs to be reconstituted)*

CONTENTS: *Neutrophil Elastase 680 FAST*: Each vial contains 48 nmol of *Neutrophil Elastase 680 FAST* in dry solid form. *Neutrophil Elastase 680 FAST* has been filtered through a 0.2 µm filter prior to drying.
Reconstitute *Neutrophil Elastase 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 4 nmols (100 µL) of *Neutrophil Elastase 680 FAST* per mouse.

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

STORAGE & HANDLING:

- Upon receipt, *Neutrophil Elastase 680 FAST* should be **STORED AT 2-8 °C AND PROTECTED FROM LIGHT**.
- When stored and handled properly, *Neutrophil Elastase 680 FAST* is stable for up to 6 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.
- **Once reconstituted with 1 x PBS, the solution is stable up to 7 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 *Neutrophil Elastase 680 FAST* is administration via intravenous injection and imaging **4-8 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.

- *Neutrophil Elastase 680 FAST* enables imaging of neutrophil elastase activity in applications including:
  - Acute lung Injury Models
  - Acute respiratory distress syndrome
  - Emphysema
  - Cystic Fibrosis
  - COPD
  - Wound Healing
  - Rheumatoid Arthritis
  - Ischemia-reperfusion

NOTES:

- *PerkinElmer's Neutrophil Elastase 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*.

PerkinElmer, Inc.
549 Albany Street
Boston, MA 02118 USA
P: (800) 762-4000 or (+1) 203-925-4602
www.perkinelmer.com/nenradiochemicals
For a complete listing of our global offices, visit www.perkinelmer.com/ContactUs

PerkinElmer®