

## IVISense™ Renin 680 FAST Fluorescent Probe

Product Number: NEV11079

### DESCRIPTION

IVISense™ Renin 680 FAST Fluorescent Probe 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.

IVISense™ Renin 680 FAST Fluorescent Probe is a Renin activatable agent that is optically silent upon injection and produces fluorescent signal after cleavage by renin produced in the kidneys. The Renin-Angiotensin System (RAS) is the hormone system involved in regulating blood pressure and fluid balance in the body. IVISense™ Renin 680 FAST Fluorescent Probe is recognized and activated by rodent forms of renin in preclinical animal models. IVISense™ Renin 680 FAST Fluorescent Probe may be used to monitor abnormal RAS function, progression of disease and the efficacy of therapeutic treatment in disorders such as hypertension and cardiovascular disease and some neurological diseases.

### MATERIAL

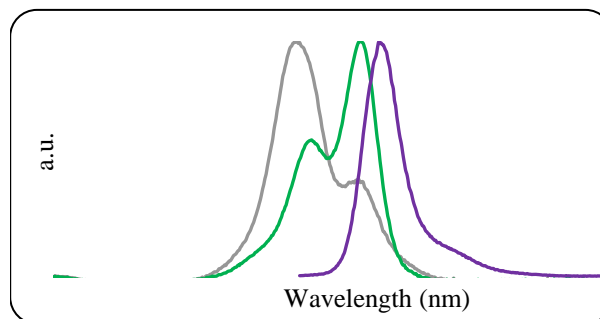
Each vial contains 24 nmol of IVISense™ Renin 680 FAST Fluorescent Probe in dry solid form. IVISense™ Renin 680 FAST Fluorescent Probe has been filtered through a 0.2 µm filter prior to drying. Reconstitute IVISense™ Renin 680 FAST Fluorescent Probe with 1.2 mL of 1 x PBS before injecting into animals. 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 IVISense™ Renin 680 FAST Fluorescent Probe per mouse.

### STORAGE & HANDLING

- Upon receipt, IVISense™ Renin 680 FAST Fluorescent Probe should be IMMEDIATELY STORED AT -20 °C AND PROTECTED FROM LIGHT.
- When stored and handled properly, IVISense™ Renin 680 FAST Fluorescent Probe 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.
- Once reconstituted, the solution is stable up to 14 days when stored at 2-8°C and protected from light.

Property	Specification
MW	43,000 g mol <sup>-1</sup>
Fluorescence <sup>1</sup>	
• Excitation	675 nm
• Emission	693 nm
Absorbance <sup>1</sup>	675 nm (activated)
Purity <sup>2</sup>	>95%
Appearance	Dark Blue Solid

1. Absorbance and fluorescence in 1xPBS.
2. As determined by RP-HPLC, measuring absorbance at 675nm



## IN VIVO IMAGING & APPLICATIONS

- Renin is a peptide hormone secreted by the kidney from granular cells of the juxtaglomerular apparatus and is the first step in a cascade of events that lead to increased blood pressure. Renin is upregulated in response to decrease in arterial blood pressure, decrease in plasma sodium chloride levels, or sympathetic nervous system activity. Renin cleaves angiotensinogen (produced in the liver) to yield angiotensin I, which is further converted to angiotensin II by angiotensin-converting enzyme (ACE). Angiotensin II constricts blood vessels, increases aldosterone secretion from the adrenals, and stimulates a thirst reflex, each leading to an increase in blood pressure. Kidney imaging of IVISense™ Renin 680 FAST Fluorescent Probe can detect 3- to 4-fold increases in kidney renin activity in response to 2-3 days of low salt diet in C57BL/6 mice. The generally recommended procedure for in vivo imaging with IVISense™ Cat B 750 FAST Fluorescent Probe 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 may require an 8 nmol dose and may benefit from a later imaging time point.
- The generally recommended procedure for in vivo imaging with IVISense™ Renin 680 FAST Fluorescent Probe is administration via intravenous injection and imaging 24 hours post injection. Earlier and later timepoints may be appropriate for some disease models, and the optimal imaging timepoint for any application should be determined empirically.
- IVISense™ Renin 680 FAST Fluorescent Probe enables imaging of Renin activity in applications including cardiovascular disease, certain model of impaired renal function, chronic hyperthyroidism, hypertension, and some neurological diseases.

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