SAIVI™ Alexa Fluor® 680 and Alexa Fluor® 750 Injectable Contrast Agents *bovine serum albumin*

Table 1. Contents and storage information.

Material	Amount	Concentration	Storage	Stability
Bovine serum albumin conjugates	1 mL, 15 nmol per vial	1.5 nmol albumin/100 µL (recommended volume per injected dose) in azide-free phosphate buffered saline (PBS), pH 7.2; passed through a 0.2 µm sterile filter	• 2–6°C • Do not freeze • Protect from light	When stored as directed, product is stable for at least 3 months.
Approximate Fluorescence Excitation and Emission, in nm : 679/702, for SAIVI™ Alexa Fluor® 680 agent; 749/775, for SAIVI™ Alexa Fluor® 750 agent.				

Introduction

Serum albumin, a monomeric protein that constitutes approximately two-thirds of the protein mass of serum, transports an assortment of molecules including fatty acids, bile acids, eicosanoids, vitamins, hormones, ions, toxins, and drugs. Serum albumin is widely used as a macromolecular carrier for targeting tumors with anticancer drugs, photosensitizers, and cytostatic and contrast-enhancing agents.[1] Serum albumin conjugates have also been used for intraoperative sentinel lymph node mapping.[2] Pooling of this macromolecule in areas of perturbed vasculature may occur by means of the enhanced permeability and retention effect (EPR effect) attributed to pathological alterations of tumor vasculature. High blood vessel density, increased permeability, and ineffective lymphatic drainage can contribute to this effect.[3] Such accumulation may occur in association with vascular irregularities found in tumors and in inflammatory processes such as rheumatoid arthritis.[4,5]

Molecular Probes provides researchers with bovine serum albumin (BSA) conjugated to near-infrared–fluorescent Alexa Fluor® 680 and Alexa Fluor® 750 dyes (Figure 1) for use as injectable contrast agents in small animal *in vivo* imaging. SAIVI™ injectable contrast agents have been optimized for emission intensity and tested as reagents for the *in vivo* imaging of regions of blood pooling and vascularization in an inflammatory disease model in mice.

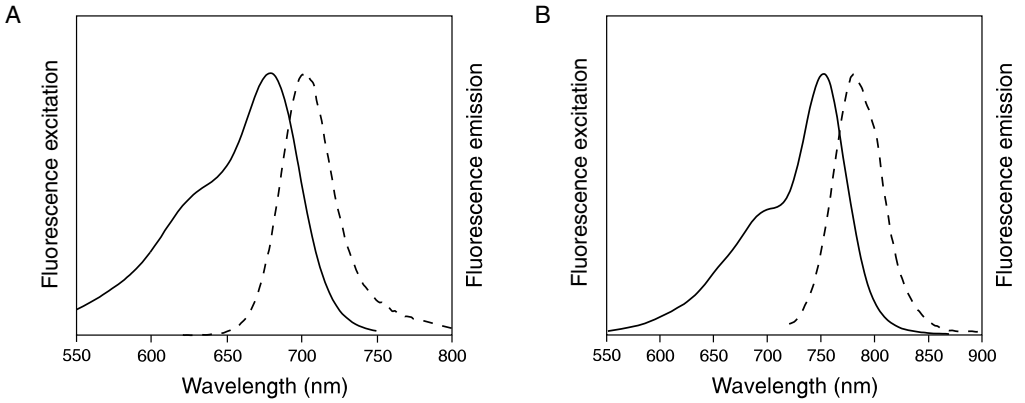

Figure 1. Fluorescence excitation and emission spectra of Alexa Fluor® 680 dye (A) and Alexa Fluor® 750 dye (B).

Guidelines For Use

Using Imaging Agents

Allow the injectable contrast agent to equilibrate to room temperature before use.

The recommended procedure for *in vivo* imaging with SAIVI™ Alexa Fluor® 680 and Alexa Fluor® 750 BSA imaging agents is administration via tail-vein injection and imaging 10 min–24 hr after injection, depending upon the experiment. We recommend imaging frequently in initial experiments to determine the appropriate time course for each type of experiment.

These imaging agents have been successfully used to characterize regions of inflammation in a mouse model of collagen-induced arthritis, using appropriate near-infrared imaging equipment. We have observed rapid evolution of signal to background at the site of vascular alterations within the first hour following injection; pooling of circulating agent (mainly in the intestines and bladder) was observed within a few hours and persisted throughout a seven-day imaging period. No signs of acute or long-term toxicity or discomfort were observed in test animals.

Properties

The molecular weight of bovine serum albumin is approximately 66,000 daltons.

References

1. *All About Albumin: Biochemistry, Genetics, and Medical Applications*, Academic Press, New York (1996); **2.** Molecular Imaging 4, 172 (2005); **3.** Cancer Res 46, 6387 (1986); **4.** Photochem Photobiol 72, 234 (2000); **5.** Arthritis Rheum 50, 961 (2004).

Product List **Current prices may be obtained from our website or from our Customer Service Department.**

Cat #	Product Name	Unit Size
S34788	SAIVI™ Alexa Fluor® 680 injectable contrast agent *bovine serum albumin*	1 mL
S34789	SAIVI™ Alexa Fluor® 750 injectable contrast agent *bovine serum albumin*	1 mL

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