

## 1. PRODUCT AND COMPANY INFORMATION

### 1.1 Product Identifiers

Product Names: Lipo800 Forte  
 Product Numbers: 1 mg: 97-02-01-0003  
 10 mg: 97-02-01-0004  
 CAS-No.: N/A

### 1.2 Product Information

Lipo800 Forte is a high-stability, highly hydrophobic NIR fluorophore with peak emission  $\approx$  800 nm for use with Channel #2 of the FLARE® imaging system. Because of its lipophilic and cationic structure, it penetrates cell membranes rapidly and can be used to label living cells, making identification and tracking possible, both in vitro and in vivo. Depending on the cell type, and the presence of anionic transporters or efflux pumps, Lipo800 Forte can be retained for days within living cells, with cell division leading to dilution of the signal. Lipo800 Forte has a single carboxylic acid and no other reactive groups for chemical conjugation, but is also available as a convenient reactive NHS ester derivative for one-step conjugation. Because of its chemical structure, Lipo800 Forte can facilitate the transport of other small molecules, including RNA and DNA, across cell membranes to the interior of the cell. Lipo800 Forte exhibits exceptionally high stability in warm serum and is a member of the Ligand-Match™ family of labeling reagents.

### 1.3 Details of the supplier for the Instructions for Use

Company: Curadel ResVet Imaging, LLC  
 377 Plantation Street  
 Worcester, MA 01605  
 USA  
 Telephone: 774-243-9515  
 Fax: 774-243-9517  
 E-mail: [support@resvet.curadel.com](mailto:support@resvet.curadel.com)  
 URL: [www.curadelresvetimaging.com](http://www.curadelresvetimaging.com)

### 1.4 Emergency Telephone Number

Emergency Phone #: 774-243-9515

## 2. HANDLING

**Precautions** This contrast agent is intended for laboratory research use only. Not for diagnostic procedures. Not for veterinary or human use.

Wear appropriate protective equipment including laboratory coat, gloves, and eyewear.  
 Avoid contact with skin, eyes, and mouth.  
 Contrast agent will stain clothing and skin.

### Preparation

Prepare as a stock solution in dimethyl sulfoxide (DMSO) a concentration of 1 mM.

Lipo800 Forte is not practically soluble in water and should be used a solution in DMSO diluted into the aqueous solution at the target concentration.

**Sterile Use:** Whenever sterile use is intended, for example, intravenous injection into a research animal or addition to cell culture medium, filter the final NIR fluorophore solution through a 0.22  $\mu$ m filter.

**Storage**

Lyophilized powder can be stored at room temperature up to one year. Protect from light. Stock solutions should be kept at 4-8 °C when in DMSO. Avoid excessive freeze/thaw cycles by aliquoting solution prior to freezing.

Discard stock solutions after 3 months when stored properly.  
Discard stock solutions after 1 week when stored at room temperature.

**3. USAGE**

**Cell Tracking**

Prepare a stock solution of Lipo800 Forte at a concentration of 1 mM in DMSO. Dilute 1:100 to 1:2,000 into cell culture medium to achieve a final concentration of 0.5-10 µM. Incubate 30-60 min at 37°C. Wash 2-3X with cell culture medium. Cells should become highly NIR fluorescent. Because this protocol results in high intracellular concentrations (much higher than the concentration added to the cell culture medium), various loading concentrations and times should be tested to ensure that cell function is not altered. In general, a loading concentration of 0.5-1 µM for 30 min should be sufficient for detection using FLARE® imaging systems without altering cellular physiology.

3.1 Rather than adding a small volume of stock solution directly to a large volume of cell culture medium, it is recommended that the dyes be first diluted into cell culture medium, which is then added to the cells.

3.2 The dyes are stable in serum so incubation time can be extended if needed.

3.3 For all cells, signal loss can be caused by active efflux via the PGP system. For proliferating cells, additional signal loss can be caused by cell division.

**Amine Bioconjugation**

For amine bioconjugation, see Lipo800 Forte -NHS product listing. Lipo800 Forte itself can be converted to a reactive intermediate using any standard activation procedure because the only reactive group is its carboxylic acid. Avoid basic conditions (> pH 8) in water or the molecule can be damaged.