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Technical Information

NpFlamma® MB

Overview

NpFlamma® MB is a colloidal complex (80 ~ 100 nm) based on fluorescent dye methylene blue (MB). Cationic MB dye is electrostatically associated with anionic sodium oleate acid to form neutral hydrophobic complex, which are encapsulated with Pluronic F-68 surfactant to produce amphiphilic nanoparticle with good colloidal stability. MB is a clinically approved near infrared dye being used as a medication, clinical imaging dye. Pluronic F-68 is FDA-approved biocompatible amphiphilic polymer surfactant that is used in a variety of applications in medical field. NpFlamma® MB selectively accumulates inside tumor cells, providing opportunities for cancer cell imaging.

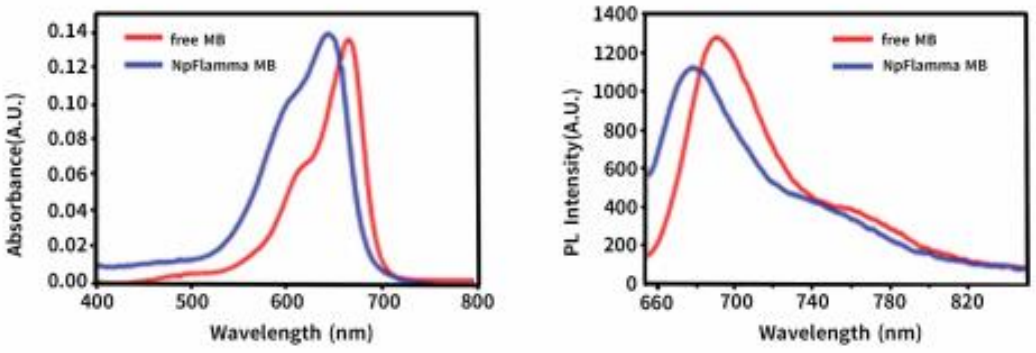

Figure 1. NpFlamma® MB (blue) and free MB (red) optical spectra absorption (left), fluorescence (right)

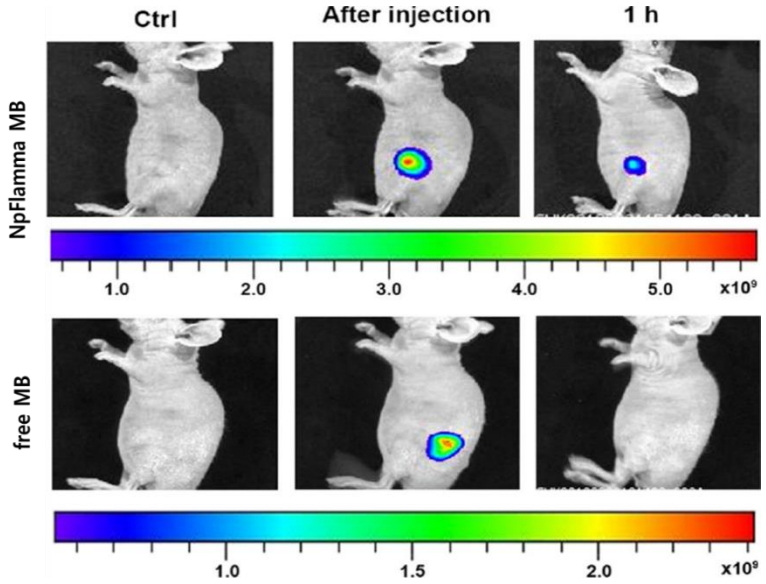

Figure 2. In vivo NIR fluorescence imaging of MDA-MB-231 tumor-bearing mice after peritumoral injection of NpFlamma® MB (upper) and free MB (bottom)

In vivo Imaging Protocol

General

- Prepare the fluorescent probe solution by adding NpFlamma® MB solution and vortex the mixture
- Fluorescent substances are unstable under light, they should be stored in the dark.
- Mouse fur may cause scattering or absorption of excitation of light during optical imaging process. Use nude mouse or remove the mouse fur in advance.
- Prepare 5 week-old female Balb/c-nude mouse or rabbit.

Typical procedure for mouse model tumor imaging with NpFlamma® MB

- Inject MDA-MB-231 cell line ($1x10^7$ per 0.06 mL) into subcutaneous of Balb/c-nude mouse.
- When the volume of tumor cell reaches to 60~80 mm^3, take the zero time image of each subject.
- Inject NpFlamma® MB intravenously to mouse.
- The optimal interval for fluorescence imaging is 1 h after injection.

Custom Labeling Service

Based on accumulated know-how and technologies, BioActs provide a wide range of custom services such as protein fluorescence labeling, organic synthesis, oligonucleotide synthesis upon customers' request. Our reliable technology has acknowledged by our clients from domestic and overseas universities, institutions, in vitro diagnostic and pharmaceutical companies and has enabled to steadily conduct their requirements. In addition, we can introduce fluorescent materials to many other compounds such as organic and inorganic compounds, drugs, hormones, polymer, peptides, proteins, antibodies, etc. We also can provide chemical and optical analytical data, along with cell and animal experiments.

Technical Support

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SDS (Safety Data Sheets) You can find SDS at www.bioacts.com, the official website of BioActs.
CoA (Certificate of Analysis) provides detailed quality information of each product. To see CoA, check the lot number written on each product's page at www.bioacts.com, when having trouble with check, contact to our technical support team

The product cannot be resold to other regions except for South Korea.

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