

High efficiency synthesis of a bioconjugatable near-infrared fluorochrome.

賴文福

Pham W;Lai WF;Weissleder R;Tung CH.

摘要

Abstract

Near-infrared (NIR) fluorochromes have become important reporter molecules for many biomedical applications, including FACS sorting, confocal microscopy, and more recently in vivo imaging. While the structures of several stable 800 nm fluorochromes have been published, their synthesis is often complex and there are difficulties in rapidly purifying these compounds in large quantities. Here we report on the synthesis of NIR820, ex/em = 790/820, with excellent physicochemical properties. Importantly, NIR820 is conveniently synthesized in a three-step reaction and can be purified by flash column chromatography rather than by HPLC. NIR820 is chemically stable and can be directly coupled to peptides during the solid-phase synthesis. In addition, NIR820 is also suitable for conjugation to proteins and other affinity molecules in aqueous buffer.