

Introduction

Liperfluo, a Spy-LHP analog, is used for lipid peroxide detection, and it emits intense fluorescence by the lipid peroxide specific oxidation in organic solvents such as ethanol (Fig. 1, 2). Since the excitation and emission wavelengths of the oxidized form of Liperfluo are 524 nm and 535 nm, respectively, both photo-damage against a sample and an auto-fluorescence from the sample can be minimized. Due to the introduction of a tetraethyleneglycol group at the one-end of diisoquinoline ring, the dispersibility of the molecule in an aqueous buffer is improved. Though Liperfluo oxidized form is almost non-fluorescent in an aqueous media, it emits fluorescence in lipophilic sites such as in cell membranes. Therefore it can be easily applied for a lipid peroxide imaging by fluorescence microscopy or lipid peroxide analysis by flow cytometry for a living cell.

