Reactive Heterocycle-Substituted 7-Hydroxycoumarins and Their Conjugates

Abstract

Chemically-reactive, water-soluble, heterocycle-substituted 7-hydroxycoumarin dyes, their bioconjugates and uses are described. The conjugates derived from reactive heterocycle-substituted 7-hydroxycoumarin dyes are used for analyzing biological compounds. These heterocycle-substituted 7-hydroxycoumarin dyes are particularly useful as fluorescent labels for biopolymer detection reagents, such as antibodies or nucleic acid probes. The dye-antibody conjugates of the invention are particularly useful for analyzing analytes using a flow cytometer equipped with a violet laser as an excitation source due to their strong absorption at 405 nm and high fluorescence quantum yield.