Medical > In Vivo > Other material

61 | Fluorescein derivatives in intravital fluorescence imaging.

Robertson TA, Bunel F, Roberts MS., Cells. 2013 Aug 2;2(3):591-606. doi: 10.3390/cells2030591.

ABSTRACT

Intravital fluorescence microscopy enables the direct imaging of fluorophores in vivo and advanced techniques such as fluorescence lifetime imaging (FLIM) enable the simultaneous detection of multiple fluorophores. Consequently, it is now possible to record distribution and metabolism of a chemical in vivo and to optimise the delivery of fluorophores in vivo. Recent clinical applications with fluorescein and other intravital fluorescent stains have occurred in neurosurgery, dermatology [including photodynamic therapy (PDT)] and endomicroscopy. Potential uses have been identified in periodontal disease, skin graft and cancer surgery. Animal studies have demonstrated that diseased tissue can be specifically stained with fluorophore conjugates. This review focuses on the fluorescein derived fluorophores in common clinical use and provides examples of novel applications from studies in tissue samples.