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TITLE

BIOPHOTONICS: APPLICATION TOWARDS MODERN DRUG DISCOVERY

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Used in conjunction with other technologies the light beam becomes a uniquely powerful tool to study cells. We use this light source not only to observe cells, but also to stimulate cellular chemistry. This area of biophotonics is called "caged compounds" as synthetic organic chemistry is used to make biologically signaling molecules functionally inert; irradiation liberates the caged molecules, thus "switching on" a chosen signaling pathway. We have developed many caged compounds for stimulating both intracellular and extracellular receptors. With reference to IP3-Calcium signaling cascade, here I describe few examples of widely used caged compounds, their design features, synthesis and some extent their applicability in living cells.

Fluorescent imaging probes are also playing vital role in recent years and becoming a part In the process of drug discovery and development. I also describe here on the development of imaging probes in reference to the Alzheimer Disease (AD) for diagnosis and drug development.