

Optopharmacology to regulate endogenous proteins with light

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The development of light-regulated drugs (optopharmacology) has important applications to neuronal receptors and enables the remote stimulation of neurons without genetic manipulation. Controlling drug activity with light offers the possibility of enhancing pharmacological selectivity with spatial and temporal regulation, thus enabling highly localized therapeutic effects and precise dosing patterns. Recent advances of the laboratory will be presented, including the development and characterization of the first photoswitchable allosteric modulator of a G protein-coupled receptor.