Protonex™ Red 670 acid

Catalog Number: 21181
Unit Size: 1 mg

Product Details

Storage Conditions	Freeze (< -15 °C), Minimize light exposure
Expiration Date	12 months upon receiving

Chemical Properties

Appearance	Solid purple
Molecular Weight	629.76
Soluble In	DMSO

Spectral Properties

Excitation Wavelength	643 nm
Emission Wavelength	660 nm

Applications

Protonex™ Red 670 works by changing its fluorescence intensity depending on the pH of the environment. Protonex™ Red 670 is minimally fluorescent at a basic pH and maximally fluorescent at an acidic pH. When Protonex™ Red 670 is bound to a receptor or an antibody on the cell surface, it is essentially non-fluorescent because the extracellular pH is neutral. However, when the receptor or antibody is internalized into the cell in response to a stimulus, it enters the endosomal pathway, where the pH is acidic. This causes Protonex™ Red 670 to become highly fluorescent and emit red light when excited by a red laser such as a 632 nm He-Ne or 647 nm red laser. By measuring the fluorescence intensity of Protonex™ Red 670, one can monitor the activation and trafficking of receptors or antibodies in live cells. Protonex™ Red 670 is especially useful in studying the activation and trafficking of G protein-coupled receptors (GPCRs), one of the most popular therapeutic drug targets. Protonex™ Red 670 can be used to label any receptor or epitope tag antibody and monitor its movement from the cell surface into acidic endosomes upon agonist stimulation. Protonex™ Red 670 can also be used to measure high-potency agonist and antagonist responses of different GPCRs in live cells, such as the activation of TRHR-1 and beta-adrenoceptor, two GPCRs that are involved in hormone regulation and cardiovascular function.