

# pHRed600 maleimide, Thiol Reactive

## Summary

Product Name	pHRed600 maleimide, Thiol Reactive
Code	APK024
Storage conditions	-20°C, This product should be stable for at least 12 months

## Description

pHRed600 maleimide is a thiol reactive dye that can easily react with thiol groups in biomolecules to generate covalently linked fluorescent pH probes. pHRed600 maleimide can be used to label free thiol groups on proteins, cells, or viruses, forming stable conjugates that only fluoresce in acidic environments. Our low background pHRed600 dye simplifies the internalization process, makes the results more reliable, and minimizes optimization, as the pHRed600 dye is only activated in late endosomes and lysosomes. The maximum excitation and emission values of pHRed600 dye are approximately 576 nm and 597 nm.

## Background:

pHRed600 dye exhibits pH dependent fluorescence, with increased brightness under acidic conditions, which is opposite to most fluorescent dyes emitting stronger fluorescence at higher pH levels. As the pH value decreases from neutral to acidic, the fluorescence of pHRed600 dye increases. Due to its weak fluorescence outside the cell, this characteristic can reduce washing steps. pHRed600 dye is particularly effective in monitoring acidic cell compartments such as endosomes and lysosomes. It performs well in environments such as phagosomes, lysosomes, and endosomes, with significantly enhanced fluorescence that can accurately detect these acidic sites. This reduces signal variability and improves the accuracy of imaging or flow cytometry applications. These biological conjugates are particularly effective for targeted detection of cellular processes such as phagocytosis and endocytosis, further enhancing the specificity and reproducibility of the assay. When used in combination with the green dyes, such conjugates also support comprehensive multiplex analysis of cellular function.

This product is for research use only and is not approved for use in humans or in clinical