



Cell Technology, Inc

# Fluoro Hydroxyl/Peroxynitrite

Hydroxyl radical ( $\cdot\text{OH}$ ), and peroxynitrite ( $\text{ONOO}^-$ ) Detection Kit

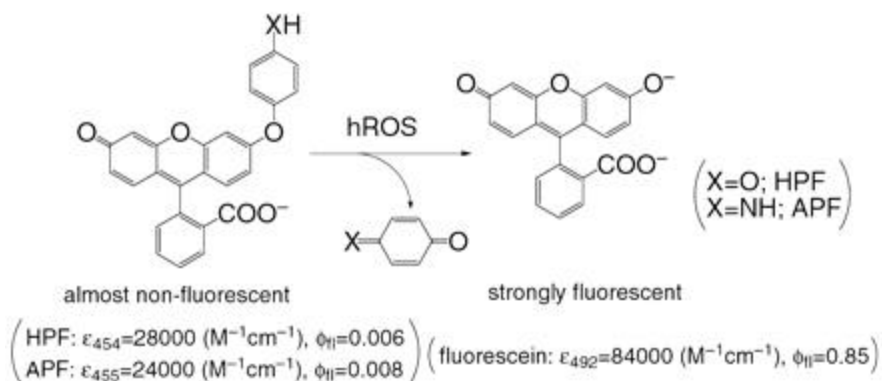
## Key Benefits

- Can monitor multiple time points to follow real time kinetics.
- Specific for  $\cdot\text{OH}$  and  $\text{ONOO}^-$
- Quenched cell permeable dye.
- One-step, no wash assay.
- Adaptable for High Throughput format
- Non-destructive cell based assay allows monitoring of additional parameters.

## Introduction

A new novel probe, Hydroxyphenyl fluorescein (HPF), developed by Tetsuo Nagano et. al. (1), is a highly selective probe for the detection of highly Reactive Oxygen Species (hROS). It is a cell permeable highly sensitive fluorescent probe for hydroxyl radical ( $\text{OH}^\cdot$ ), and peroxynitrite ( $\text{ONOO}^-$ ) detection. It has little reactivity towards other hROS such as: hypochlorite ( $\cdot\text{OCl}$ ), singlet oxygen ( $\text{O}_2^1$ ), superoxide ( $\text{O}_2^{\cdot-}$ ), hydrogen peroxide ( $\text{H}_2\text{O}_2$ ), nitric oxide ( $\text{NO}^\cdot$ ), and alkyl peroxide ( $\text{RO}_2^\cdot$ ) (see table below)<sup>1</sup>.

## Assay Principle



### Reactivity Profile of HPF:

ROS	HPF (RFU) Ex:499 Em:515	DCFH-DA (RFU) Ex:500 Em:520
Hydroxyl Radical: $\cdot\text{OH}$	730	7400
Peroxynitrite: $\text{ONOO}^-$	120	6600
Hypochlorite: $\text{OCl}^-$	6	86
Oxygen Radical: $^1\text{O}_2$	5	26
Superoxide: $\text{O}_2^{\cdot-}$	8	67
Hydrogen Peroxide : $\text{H}_2\text{O}_2$	2	190
Nitric Oxide: $\text{NO}$	6	150
Alkylperoxyl Radical: $\text{ROO}^\cdot$	17	710
Autoxidation	<1	2000

### Ordering Information

Catalog #	Contents	Size	Price (US\$)
FLHPF100-2	HPF One vial	150 Tests*	195

\*Test size will depend on dilution and volume used per test. For example:

Dilution of HPF	Volume of test	Numer of tests
1:500 (10 $\mu\text{M}$ final)	0.2 mL	147
1: 1000 (5 $\mu\text{M}$ final)	0.2mL	294

Manufactured: by Daiichi Pure Chemicals Co. Ltd. Japan

### References:

1 Ken-ichi Setsukinai, Yasuteru Urano, Katsuko Kakinuma, Hideyuki J. Majima , and Tetsuo Nagano. Development of Novel Fluorescence Probes That Can Reliably Detect Reactive Oxygen Species and Distinguish Specific Species. THE JOURNAL OF BIOLOGICAL CHEMISTRY Vol. 278, No. 5, Issue of January 31, pp. 3170–3175, 2003

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