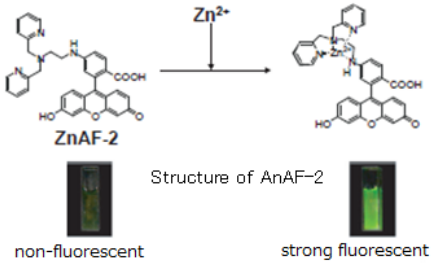
For Research Use Only

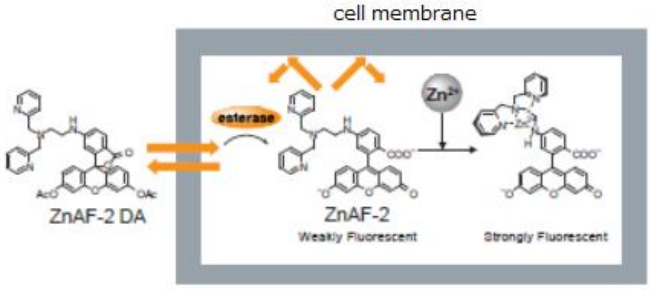
ZnAF-2 / ZnAF-2 DA

Table 1. Product information

Code no.	Product	Contents	Storage	Stability
SK2001-01	**ZnAF-2**	1 mg（in DMSO 0.28 mL）	Freeze-preservation, desiccate and protect from light.	1 year (unopened)
SK2002-01	**ZnAF-2 DA**	1 mg（in DMSO 0.28 mL）		

ZnAF-2, that has structure of fluorescein connected with TPEN analog, has high specificity to Zn^{2+}. **ZnAF-2** has high solubility, so that it is not permeable through the cell membrane. **ZnAF-2 DA** has an additional acetyl group which make the reagent go inside the cell much easier, and the acetyl group is removed by the intracellular esterase which make the reagent stay inside the cell for long time.



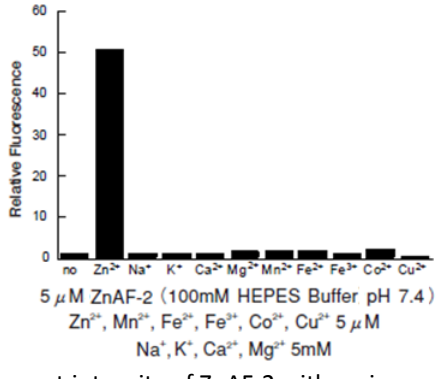


1. About ZnAF-2

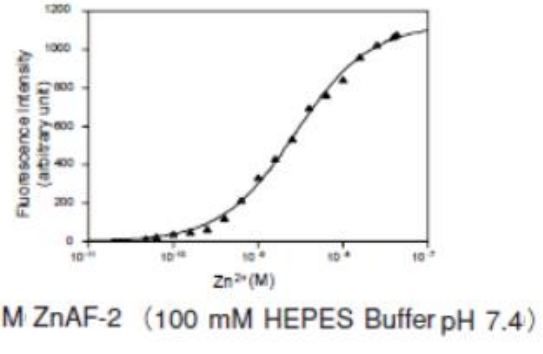
- High affinity to Zn^{2+} that enables us to detect low concentration of Zn^{2+} (dissociation constant: 2.7 nM).
- High specificity to Zn^{2+} in the buffer.
- Low background fluorescence contributes high sensitivity of Zn^{2+} in living sample.
- **ZnAF-2 DA** is permeable through the cell membrane, so that by using the reagent, bioimaging in living cell or tissue is available.
- **ZnAF-2 DA** is deacetylated by esterase in the cell, and it stays inside the cell for long time.

2. Principle of the measurement

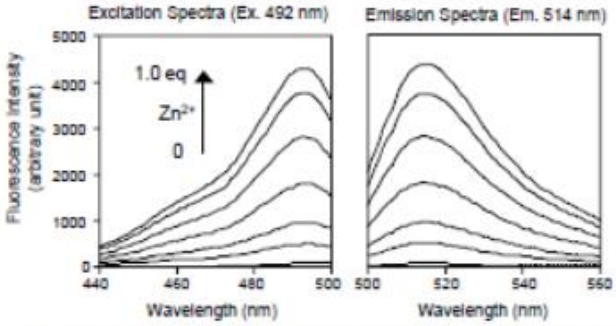
Complex of **ZnAF-2** and Zn^{2+} has green fluorescence (wavelength of 515 nm) by the excitation at 492 nm.



Fluorescent intensity of ZnAF-2 with various metal ion.



Fluorescence intensity of ZnAF-2 with Zn^{2+}.



5 μM ZnAF-2 (100mM HEPES Buffer pH 7.4)
Zn^{2+} (0, 0.5, 1, 2, 3, 4, 5 μM)

3. Contents

ZnAF-2 1mg (DMSO 0.28mL)
$C_{34}H_{32}Cl_4N_4O_5$ Mw : 718.45
ZnAF-2 DA 1mg (DMSO 0.28mL)
$C_{38}H_{32}N_4O_7$ Mw : 656.23

4. Preparation of Reagent

Density of the provided sample is 5mmol/L in DMSO. Dilute 1000 times with neutral buffer before use.

5. Reference

1. Hirano, T.; Kikuchi, K.; Urano, Y.; Higuchi, T.; Nagano, T.*J. Am. Chem*. Soc. 2000, **122**, 12399-12400
2. Hirano, T.; Kikuchi, K.; Urano, Y.; Nagano, T. *J. Am.Chem. Soc*. 2002, **124**, 6555-6562
3. Ueno, S.; Tsukamoto, M.; Hirano, T.; Kikuchi, K.; Yamada,MK.; Nishiyama, N.; Nagano, T. Matsuki, N.; Ikegaya, Y.*J. Cell. Biol*. 2002, **158**, 215-220

GORYO Chemical, Inc.
Hokudai Business-Spring, 2F, Kita 21 Nishi 12-2, Kita-ku,
Sapporo 001-0021 JAPAN
TEL: +81-11-214-9422 FAX: +81-11-351-1822
URL: http://www.goryochemical.com/