

For research use only

# ***Diaminorhodamine-4M (DAR-4M)***

Table 1. Product information

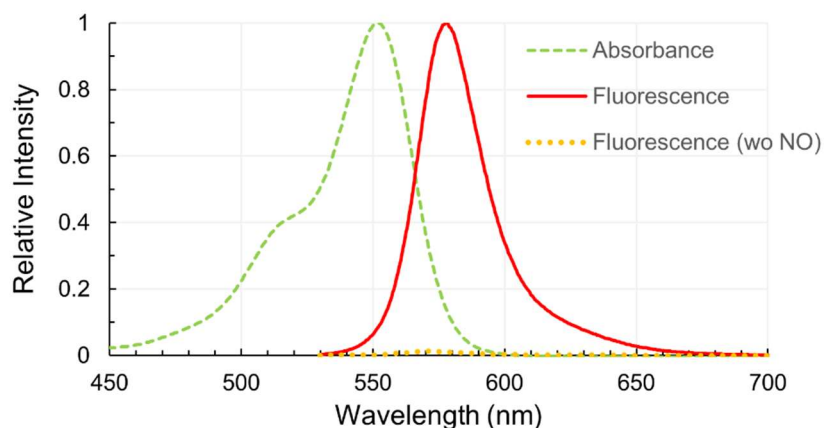
Catalog no.	Product name	Amount	Storage upon receipt	Stability
SK1005-01	Diaminorhodamine-4M (DAR-4M)	1 mg (in DMSO 0.47 mL)	≤-20°C, keep desiccated and protected from light.	1 year (when unopened and stored as described.)

## **1. About DAR-4M**

Diaminorhodamine-4M (DAR-4M) is a fluorescent probe to detect nitric oxide (NO). It can be used for the detection of NO released from organs and cells via orange (red) fluorescence. The probe can be used in wide range of pH (4 – 12). Please use DAR-4M AM for the detection of intracellular NO.

## **2. Properties of the reagent**

The reagent is provided as a pale red solution. The color of the solution will be magenta when it is diluted to aqueous solutions such as PBS (pH=7.4). It has almost no fluorescence but shows orange fluorescence upon reaction with NO, with maximum emission at 578 nm. Optimum excitation wavelength is 552 nm and it can be excited with either 532 nm or 543 nm laser. For observation with fluorescence microscopy, green excitation filter sets such as that for Cy3 are appropriate.



## **3. Preparation of the reagent**

The reagent is a solution of 5 mM. To avoid moisture absorption, allow the vial to reach room temperature before opening the cap. Dilute the solution 500-fold with neutral buffer solution such as PBS (pH=7.4) to prepare working solution of final concentration 10 μM. The concentration of the reagents should be optimized depending on the purpose of the experiment and the NO concentration to be detected.

#### 4. Precautions

- 1) Prepare working solutions just before use.
- 2) The quality of the reagent may be compromised after opening the cap. Avoid repeated freeze-thaw cycles which may reduce the performance of the reagent.
- 3) Use neutral buffer (pH=7 to 7.5) to dilute the reagent. Addition of bovine serum albumin (BSA), phenol red, calcium ion and vitamins may affect the fluorescence.
- 4) The reagent is dissolved in dimethyl sulfoxide which is flammable. Handle with necessary precautions.

#### 5. References

1. Kojima, H., Hirotsani, M., Nakatsubo, N., Kikuchi, K., Urano, Y., Higuchi, T., Hirata, Y., Nagano, T. (2001) *Anal. Chem.*, **73**:1967–1973

Table 2. Related Products

Catalog no.	Product name	Major applications
SK1001-01	DAF-2	Detection of NO via green fluorescence.
SK1002-01	DAF-2 DA	Detection and imaging of intracellular NO via green fluorescence.
SK1003-01	DAF-FM	Detection of NO via green fluorescence (in pH $\geq$ 6)
SK1004-01	DAF-FM DA	Detection and imaging of intracellular NO in pH $\geq$ 6, via green fluorescence.
SK1006-01	DAR-4M AM	Detection of intracellular NO in pH range of 4-12 via orange fluorescence.