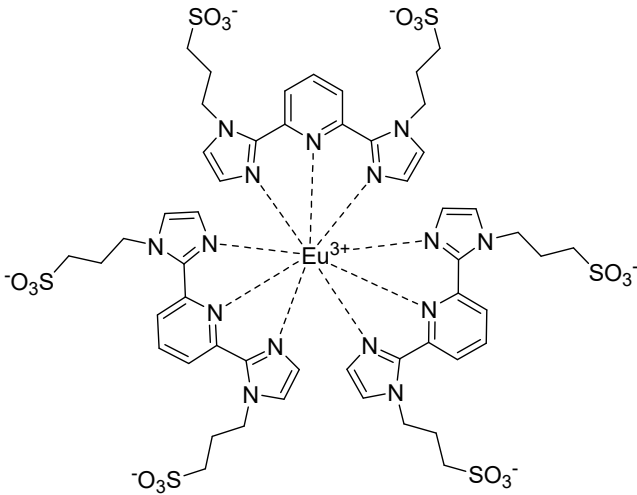


Instruction Manual

| | |
|---------------------------------------|--|
| Catalog Number | PK-CA707-80105 |
| Description | SDIP/Eu ³⁺ has been developed as an alternative to DPA/Tb ³⁺ (Cat.No. PK-CA707-80104), which is used for vesicle fusion assays (1-4). Similar to DPA/Tb ³⁺ assay, one population of vesicles can be loaded with the chelator SDIP while another population of vesicles can be loaded with EuCl ₃ . Intense red fluorescence is produced when the two types of vesicles fuse as a result of formation of the SDIP/Eu ³⁺ complex. The main advantage of SDIP/Eu ³⁺ over DPA/Tb ³⁺ is that the SDIP/Eu ³⁺ generates fluorescent emission with brighter intensity and much longer wavelength. Neither the ligand SDIP nor Eu ³⁺ is fluorescent in water. However, when SDIP and Eu ³⁺ are combined at 3 to 1 or greater a ratio strong red fluorescence forms due to formation of the SDIP/Eu ³⁺ complex. High concentrations of phosphate, amino acids, or citrate will interfere with the complex formation and thus should be avoided. We recommend one population of vesicles be loaded with ~0.2mM EuCl ₃ and the other population of vesicles be loaded with 1-2 mM SDIP. Including Ca ²⁺ and EDTA in the external medium inhibits fluorescent complex formation outside the fused vesicles. Fluorescence is collected at ~610 nm, with excitation at 250-320 nm. |
| Quantity | 1 set (containing 50 mg SDIP and 25 mg EuCl ₃ in two separate vials) |
| Excitation / Emission Maxima | $\lambda_{exc}/\lambda_{em} = 250-320$ (for complex)/~610 nm (for complex) |
| Molecular Structure |  |
| Molecular Weight / Molecular Formula | SDIP: 449 Da; EuCl ₃ : ~258 Da Molecular Formula: NA |
| Purity | NA |
| Appearance / Formulation / Solubility | SDIP is a light yellow solid. EuCl ₃ is in a colorless crystal form. Both components are readily soluble in water. |
| Storage & Stability | Although stable at RT, storage at 4°C is recommended. Aqueous solution of SDIP should be protected from light. |
| Applications | See Description |
| References | <ol style="list-style-type: none"> Nature 281, 690(1979) Biochemistry 19, 6011(1980) Biochemistry 33, 5805(1994) J. Biol. Chem. 269, 14473(1994) |
| Caution | Potentially harmful. Avoid prolonged or repeated exposure. Avoid getting in eyes, on skin, or on clothing. Wash thoroughly after handling. If eye or skin contact occurs, wash affected areas with plenty of water for 15 minutes and seek medical advice. In case of inhaling or swallowing, move individual to fresh air and seek medical advice immediately. |

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