

## DPA/Terbium for Membrane Fusion Assay

The principle of DPA/Tb<sup>3+</sup> for vesicle fusion assay is based on the fact that contact of the chelator dipicolinic acid (DPA) with terbium (III) forms an instant Tb<sup>3+</sup>-DPA complex that is ~10,000 times more fluorescent than free Tb<sup>3+</sup>. In the assay, separate vesicle populations are loaded with 2.5 mM TbCl<sub>3</sub> in 50 mM sodium citrate, or 50 mM DPA in 20 mM NaCl.



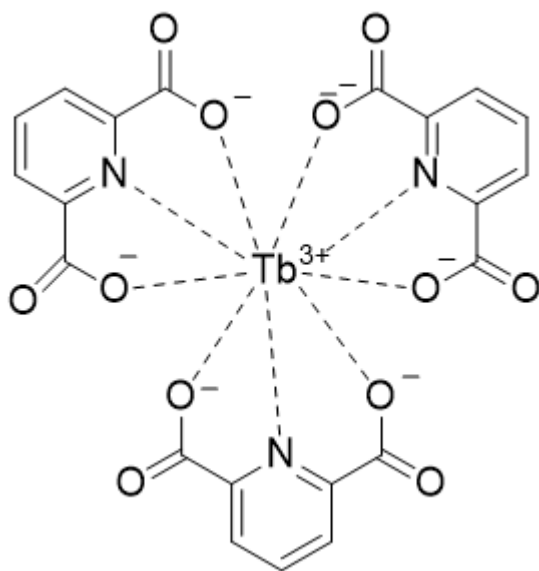
### Product attributes

Probe cellular localization	Fluid phase tracer
Cell permeability	Membrane impermeant
Colors	Orange
Excitation/Emission	276/490, 545 nm

## Product Description

The principle of DPA/Tb<sup>3+</sup> for vesicle fusion assay is based on the fact that contact of the chelator dipicolinic acid (DPA) with terbium (III) forms an instant Tb<sup>3+</sup>-DPA complex that is ~10,000 times more fluorescent than free Tb<sup>3+</sup>. In the assay, separate vesicle populations are loaded with 2.5 mM TbCl<sub>3</sub> in 50 mM sodium citrate, or 50 mM DPA in 20 mM NaCl. Fusion of the two types of vesicles results in fluorescence increase at 490 nm or 545 nm, with excitation at 276 nm (1-4). Each set of product contains 1 g terbium trichloride and 1 g DPA in two separate vials. Please also see SDIP/Europium for membrane fusion assay ([80105](#)), which results in intense red fluorescence upon complex formation.

- λEx/λEm (DPA/Tb<sup>3+</sup> complex) = 276/490 and 545 nm
- DPA and Terbium are white solids and readily soluble in water
- Store both reagents at room temperature
- MW of DPA: 167.12
- CAS#: 499-83-2
- MW of Terbium: 265.3
- CAS#: 13798-24-8



## References

1. Biochemistry 19, 6011 (1980).
2. Nature 281, 690 (1979).
3. Biochemistry 33, 5805 (1994).
4. J Biol Chem 269, 14473 (1994).