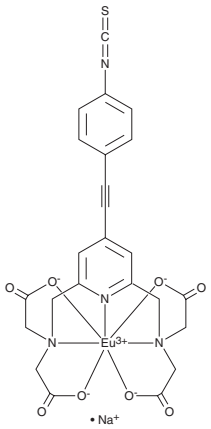
PRODUCT INFORMATION

Europium W1024 ITC

Item No. 31103



CAS Registry No.: 1204652-02-7
Formal Name: [[N,N′-[[4-[(4-isothiocyanatophenyl)ethynyl]-2,6-pyridinediyl-κN]*bis*(methylene)]*bis*[N-[(carboxy-κO)methyl]glycinato-κN,κO]](4-)]-europate(1-), monosodium salt
Synonyms: Eu-W1024 ITC, Europium W1024 Isothiocyanate
MF: $C_{24}H_{18}EuN_4O_8S \bullet Na$
FW: 697.4
Ex./Em. Max: 340/613 nm
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years
Special Conditions: Protect from light

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Description

Europium W1024 isothiocyanate (ITC) is a lanthanide-based fluorophore with a long emission lifetime and large Stokes shift.[1,2] It displays excitation/emission maxima of 340/613 nm, respectively.[1] Europium W1024 ITC contains a reactive isothiocyanate handle that reacts with primary amino groups at an alkaline pH. It is stable in the presence of high temperature, high EDTA concentration, or low pH but not in the presence of manganese. Europium W1024 ITC has commonly been conjugated to various molecules and used as a donor fluorophore in TR-FRET where its long emission lifetime provides a longer window of measurement for acceptor fluorescence and reduces the interference of autofluorescence.[3-5]

Protein Labeling Protocol

The recommended conditions for labeling a protein are:

1. An amine-free buffer with a pH of 9.0-9.3
2. Overnight reaction at 4°C, protected from light
3. A molar excess of the europium chelate over protein to be labeled
   NOTE: The labeling efficiency will also depend on the protein concentration and its isoelectric point (pI). It is recommended that users perform a titration to identify the ideal chelate:protein molar ratios for their assay. A purification step is necessary to separate unreacted chelate from the labeled protein.

   It is recommended to store the chelate in an acidic buffer (pH 4-4.5) at a high concentration between -20 and -80°C.

References

1. Mathis, G. and Bazin, H. *Stable luminescent chelates and macrocyclic compound*. Lanthanide luminescence: Photophysical, analytical and biological aspects. Hänninen, P. and Härmä, H, 1st, *Springer, Berlin, Heidelberg* (2010).
2. Mathis, G. *Clin. Chem.* **41(9)**, 1391-1397 (1995).
3. Moshinsky, D.J., Ruslim, L., Blake, R.A., *et al. J. Biomol. Screen.* **8(4)**, 447-452 (2003).
4. Scheepstra, M., Leysen, S., van Almen, G.C., *et al. Nat. Commun.* **6**, 8833 (2015).
5. Poore, D.D., Hofmann, G., Wolfe, L.A., 3rd., *et al. SLAS Discov.* **24(2)**, 175-189 (2019).

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