Customized Labelling Service
DELFIA® Reagents
Oligonucleotides

For Research Use Only

INTRODUCTION

The labelled oligonucleotide probe is intended for use in time-resolved dissociation-enhanced fluorometric assays (1,2). Reagents labelled with DELFIA® W2014 chelate are suitable for highly sensitive end point measurements in separation based assays such as those for microtitration strip –based hybridization assays (2,5-10). Reagents labelled with DELFIA DTPA chelate are suitable for use as primers in PCR (8).

VIAL CONTENT

Labelled reagents are supplied as ready-for-use solution in 20 mmol/L Tris-HCl buffered saline. See label on the vial for the quantity and production date.

STORAGE

Store the labelled oligonucleotide as such at -20°C. Do not store the labelled oligonucleotide in DELFIA Assay Buffer (prod. no. 1244-106), phosphate buffer or any other buffer that contains chelating agents.

WARNINGS AND PRECAUTIONS

DELFIA reagents are intended for research use only.

Disposal of all waste should be in accordance with local regulations.

USE OF LABELLED OLIGONUCLEOTIDES

The Eu-labelled probes are intended for use in microtitration strip –based hybridization assays (2,5-10).

Lanthanide chelate labels, because of their long fluorescence decay times provide a sensitive label technology when time-resolved fluorometry is used for detection. DELFIA is a chelate label technology which enables efficient labelling of target reagents with lanthanide ions and highly sensitive time-resolved fluorometric detection after a dissociative fluorescence enhancement (3,4).

The oligonucleotide probe has been labelled with the Eu/Sm/Tb-chelate of 4-(2-[4-isothiocyanatophenyl]ethyl]-2,6-bis[N,N-bis(carboxymethyl) aminomethyl]pyridine.

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The labelled protein as such is practically non-fluorescent. After binding assay DELFIA Enhancement Solution (prod. no. 1244-105) dissociates Eu/Sm/Tb ions from labelled protein into solution, where Eu and Sm ions form highly fluorescent chelates with components of the Enhancement Solution. For detection of Eu- or Sm-labelled oligonucleotide add 200 µL of Enhancement Solution per well, shake for 25 minutes and measure with the time-resolved fluorometer (1420 VICTOR™ or 1234 DELFIA Research Fluorometer).

For detection of Tb-labelled oligonucleotides first add 200 µL of Enhancement Solution per well, shake for 25 minutes and then add 50 µL of DELFIA Enhancer (prod. no. C500-100) to each well, shake for 5 minutes and measure Tb.

As a general rule, about 0.5 - 2 ng of Eu- and Tb-labelled oligonucleotide per well and 2 – 10 ng of Sm-labelled oligonucleotide per well is enough for microtitration strip –based hybridization assays.

DELFIA Assay Buffer (prod. no. 1244-106) supplemented with 1 mol/L NaCl is optimal for most assays. DELFIA Wash Concentrate (prod. no. 1244-114) diluted to optimal stringency for washing gives the best results.

PROCEDURAL NOTES

1. The labelled probe is stable under normal hybridization conditions (e.g. +65°C overnight, boiling water 15 min.)

2. Two-incubation assay protocols should be created for samples containing citrate, EDTA or any other chelating agent because of their chelating effect on the lanthanide when mixed with the lanthanide-labelled oligonucleotide.

3. Avoid exposure of Eu/Sm/Tb-labelled probe to pH lower than 7 and EDTA concentration higher than 200 µmol/L.

4. When washing the strips, ensure that each well is filled up completely to the top edge. After washing the strips, check that the wells are dry. If there is moisture left, invert the plate and tap firmly against absorbent paper.

   For detailed information on the cleaning and maintenance of the washing device, please refer to the DELFIA Platewash manual.

5. The avoidance of europium contamination and resulting high fluorescent background demands high standard pipetting and washing techniques. Avoid contaminating pipettes with Eu/Sm/Tb-labelled reagents.

6. The DELFIA Enhancement Solution should be dispensed using the dedicated dispensing unit DELFIA Plate Dispense or Eppendorf Multipette after the Combitip has first been flushed with Enhancement Solution. The same Combitip must not be used for pipetting any other reagent.

   When using the DELFIA Plate Dispense, please refer to the manual.

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WARRANTY

Purchase of the product gives the purchaser the right to use this material in his own research, development, and investigational work. The product is not to be injected into humans or used for diagnostic procedures. Wallac Oy reserves the right to discontinue or refuse orders to any customer who plans to use these products for any other purposes.

Wallac Oy does not warrant or guarantee that the product is merchantable or satisfactory for any particular purpose, nor free from any claim of foreign or domestic patent infringement by a third party, and there are no warranties, expressed or implied, to such effect. Wallac Oy will not be liable for any incidental, consequential or contingent damages involving their use including damages to the property or personal injuries.

All information supplied with the product and technical assistance given is believed to be accurate, but it remains the responsibility of the investigator to confirm all technical aspects of the application. We appreciate receiving any additions, corrections, or updates to information supplied to the customer.
REFERENCES


* Polymerase chain reaction (PCR) is covered by patents issued at Cetus Corporation and owned by Hoffman La-Roche, Inc. If you are interested in performing PCR, you should contact Hoffman La-Roche for information on obtaining an appropriate licence.