

Glycogen

From mussels

Cat. No. 10 901 393 001

20 mg (1 ml)

Special Quality for molecular biology

Version May 2005

Store at -15 to -25°C

1. What this Product Does

Contents

Vial	Content
Glycogen, 20 mg/ml	one vial of 20 mg in double dist. water, sterile.

Storage and Stability

The unopened vial is stable at -15 to -25°C through the control date printed on the label.

2. How To Use this Product

Application

This preparation is used as a carrier for the precipitation of nucleic acids (DNA or RNA) (1, 2). As an inert material it may replace tRNA or sonicated DNA.

20 µg glycogen (1 µl solution) allow to precipitate pg-amounts of DNA or RNA from a volume of 1 ml.

In a typical experiment 5 pg [³H]-labeled calf thymus DNA were dissolved in 500 µl 10 mM Tris-HCl, pH 8.0; 1 mM EDTA; 0.4 M LiCl. 1 µl glycogen solution (20 µg glycogen) as carrier was added and then precipitated with 1.2 ml ethanol at -15 to -25°C and stored for 3 h at -15 to -25°C. After centrifugation (10 min at 12 000 × g) the total radioactivity was found in the precipitate. Without addition of glycogen no precipitation of DNA occurred.

3. Additional Information on this Product

Product Characteristics

This glycogen is free from nucleic acids, proteases, DNases and RNases. It does not interfere with the further treatment of the precipitated nucleic acids with nucleases or modifying enzymes

Quality Control

See data label for lot-specific values.

Incubation buffer

5x conc.: 50 mM Tris-HCl; 10 mM MgCl₂; 5 mM dithioerythritol; pH 7.5 (at 37° C) was used for the determination of contaminating activities.

Absence of endonucleases

- 1 µg λ DNA is incubated with glycogen in 25 µl incubation buffer for 4 h at 37° C. The amount of glycogen that shows no degradation of λDNA is stated under "Endo 1".
- 1 µg *Eco* RI/*Hind* III-fragments of λDNA is incubated with glycogen in 25 µl incubation buffer for 4 h at 37° C. The amount of glycogen that shows no alteration of the banding pattern is stated under "Endo 2".

Absence of nicking activity

1 µg pBR 322 DNA is incubated with glycogen in 25 µl incubation buffer for 4 h at 37° C. The amount of glycogen that shows no relaxing of the supercoiled structure is stated under "Nick. Act."

Absence of exonucleases

3 nM of sonicated [³H]DNA (ca. 100 000 cpm/µg) from calf thymus are incubated with glycogen in 100 µl incubation buffer for 4 h at 37° C. The amount of glycogen that shows no release of radioactivity is stated under "Exo".

Absence of RNases

5 µg MS 2 RNA are incubated with glycogen in 50 µl incubation buffer for 4 h at 37° C. The amount of glycogen that shows no alteration of the MS 2 RNA banding pattern is stated under "RNase".

Absence of nucleic acids

200 µg glycogen are loaded on a 1% agarose gel. Electrophoresis is performed at 120 V for 1.5 h. Analysis of the EtBr stained gel under UV light reveals no bands.

Absence of proteases

200 µg glycogen are incubated with 80 mg Azocoll in 50 mM phosphate buffer pH 8. After 2 h incubation at 37°C no red azo colour is released (measured at 520 nm).

References

- 1 Tracy, S. (1981) *Prep. Biochem.* **11**, 251-268.
- 2 Helms, C. et al. (1985) *DNA* **4**, 39-49.
- 3 Wang, J. et al. (2002) A Unique Carbohydrate Binding Domain Targets the Lafora Disease Phosphatase to Glycogen *J. Biol. Chem.* **277**: 2377-2380.
- 4 Fernández-Sánchez, M.E. et al. (2003) Laforin, the dual-phosphatase responsible for Lafora disease, interacts with R5 (PTG), a regulatory subunit of protein phosphatase-1 that enhances glycogen accumulation *Hum. Mol. Genet.* **12**: 3161-3171.

Ordering Information

Roche Applied Science offers a large selection of reagents and systems for life science research. For a complete overview of related products and manuals, please visit and bookmark our homepage <http://www.roche-applied-science.com>.

Contact and Support

To ask questions, solve problems, suggest enhancements or report new applications, please visit our **Online Technical Support** Site at:

www.roche-applied-science.com/support

To call, write, fax, or email us, visit the Roche Applied Science home page, www.roche-applied-science.com, and select your home country. Country-specific contact information will be displayed.

Use the Product Search function to find Pack Inserts and Material Safety Data Sheets.

Inspiring Discovery



Diagnostics

Roche Diagnostics GmbH
Roche Applied Science
68298 Mannheim
Germany