



Product Guide for LudgerClean™ S

Glycan Cleanup Cartridges

(Ludger Product Code: LC-S-Ax, where x denotes pack size)

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Specifications for LudgerClean™ S Cartridges

Application	For purification of glycans from a variety of complex mixtures including post-labeling cleanup of LudgerTag™ fluorophore labeled glycans.
Description	The cartridges contain a glycan binding membrane. This binds to glycans in solutions containing high levels of certain organic solvents (e.g. acetonitrile). Most hydrophobic non-glycan contaminants (e.g. aromatic dyes and detergents) either simply pass through the cartridges or bind very lightly and can be washed off the membrane. The glycans are eluted from the membrane with water.
Number of Samples	LudgerClean™ S cartridges are designed for single use only.
Binding Capacity	Each cartridge can bind up to 20 µg of glycan in a volume no greater than 15 µL.
Suitable Samples	A wide range of glycans can be purified. These include N-linked and O-linked type oligosaccharides, tri-saccharides and larger structures. Substitute 96% acetonitrile with 100% acetonitrile for O-glycan clean-up methods.
Storage:	Store at room temperature in the dark. Protect from sources of heat, light, and moisture. The cartridges are stable for at least two years as supplied.
Shipping:	The product can be shipped at ambient temperature.
Handling:	Ensure that any glass, plasticware or solvents used are free of glycosidases and environmental carbohydrates. Use powder-free gloves for all sample handling procedures and avoid contamination with environmental carbohydrate.
Safety:	Please read the Material Safety Data Sheets (MSDS's) for all chemicals used. All processes involving hazardous reagents should be performed using appropriate personal safety protection - eyeglasses, chemically resistant gloves (e.g. nitrile), etc. - and where appropriate in a laboratory fume cupboard

For research use only. Not for human or drug use

Additional Reagents and Equipment Required

- Pure water, HPLC grade (~ 3 ml per sample)
- Acetonitrile, HPLC grade (~ 3 ml per sample)
- 96 % acetonitrile* / 4 % water (v/v) (~ 6 ml per sample) 100% acetonitrile for O-glycan cleanup.
- 30 % acetic acid / 70 % water (v/v) (~ 6 ml per sample)

Introduction

LudgerClean™ S cartridges have been designed for use after fluorescent labeling of glycans for the purification of the fluorophore labeled glycans from excess 2AB/2AA dye.

Time Line for Cleanup

The LudgerClean™ S glycan cleanup procedure typically takes around 80 - 100 minutes :

Procedure	Time	Elapsed Time (minutes)
Wash and prime cartridges	20 min	20
Apply sample	20 min	40
Wash off non-glycan contaminants	20 min	60
Elute glycans	20 min	80

Instructions for Use

1 Prepare the glycan sample

The sample to be cleaned must have a volume of 15 µl or less. If your sample has a greater volume then dry it down using a centrifugal evaporator and reconstitute in not more than 15 µl of water

2 Prime the LudgerClean™ S cartridge

Prime the LudgerClean™ S cartridges (one per sample) by washing each with the following :

- 1st wash - 1 ml water.
- 2nd wash - 5 ml 30 % acetic acid (aq).
- 3rd wash - 1 ml acetonitrile.

Allow each wash to drain completely before adding the next. If flow is restricted, e.g. by an air gap, apply a slight pressure to the top of the cartridge in order to resume normal flow.

3 Spot sample onto cartridge membrane

Spot each sample onto a freshly washed cartridge disc ensuring that the disc is still wet with acetonitrile. Spread the spot over the entire disc surface if possible as this aids cleanup.

4 Allow sample to adsorb onto membrane

Allow adsorption for 15 minutes.

5 Add residual sample from sample vial

Rinse each sample vial with 100 µl acetonitrile and apply to the corresponding cartridge disc.

6 Wash non-glycan contaminants off membrane

Wash each disc with 1 ml acetonitrile, followed by 5 x 1 ml 96 % acetonitrile* / 4% water

*(for cleanup of O-glycans or N- and O- glycans labeled with procainamide, substitute with 100% acetonitrile)

7 Elute glycans off membrane into a suitable container by eluting with 2 x 0.5 ml

water. Allow each 0.5 ml aliquot to drain before the next is applied.

8 Dry the eluted glycans (optional)

If appropriate, evaporate the glycan containing fraction to dryness, then dissolve in a desired volume of water or solvent for further analysis.

9 Protocol Complete

Your glycans are now ready to analyse.

Warranties and Liabilities

Ludger warrants that the above product conforms to the attached analytical documents. Should the product fail for reasons other than through misuse Ludger will, at its option, replace free of charge or refund the purchase price. This warranty is exclusive and Ludger makes no other warranties, expressed or implied, including any implied conditions or warranties of merchantability or fitness for any particular purpose.

Ludger shall not be liable for any incidental, consequential or contingent damages.

This product is intended for *in vitro* research only.

Document Revision Number

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Material Safety Data Sheet

Manufacturer	Ludger Ltd Culham Science Centre, Oxford OX14 3EB, UK Tel: +44 870 085 7011, Fax: +44 870 163 4620 Email: safety@ludger.com, Website: www.ludger.com
Identification of the substance	LudgerClean™ S cartridges
Composition	Tube of polypropylene containing a glycan absorption disc
Hazard identification	Non hazardous.
First aid measures	In case of contact: Eyes: irrigate with plenty of water. Skin: wash with soap and water. Ingestion: drink plenty of water. Inhalation: move to a well ventilated area and clear nose and throat. If in doubt seek medical advice.
Fire fighting measures	Non hazardous. Water spray or appropriate foam according to surrounding fire conditions.
Accidental release measures	Wash spill site with copious amounts of water.
Handling and storage	Store at room temperature. Handle in accordance with Good Laboratory Practice.
Exposure Controls /	Wear appropriate protective clothing (safety spectacles, gloves, laboratory coat) in accordance with Good Laboratory Practice.
Physical and chemical properties	Constructed of solid plastic and polymeric materials
Stability and reactivity	Not combustible.
Toxicological information	Toxicological, carcinogenic and mutagenic properties have not been investigated.
Ecological information	Data not available.
Disposal considerations	No special requirements. Dispose of according to local requirements.
Transport information	Contact Ludger Ltd for transportation information.
Regulatory information	Data not available.
Other information	The advice offered is derived from the currently available information on the hazardous materials in this product or component. Consideration has been made regarding the quantities offered in the pre-dispensed container. The advice offered is, therefore, not all inclusive nor should it be taken as descriptive of the compound generally.