Interchim Innovations

Interbiotech - BioScience Innovations

Endotoxin Testing & Removal

Easily Detect and Eliminate Endotoxins

Endotoxin contamination is a common problem with recombinant proteins purified from gram-negative bacteria such as E. coli. Even low levels of endotoxins can be toxic to cells or organisms and must be removed before biological samples can be introduced.

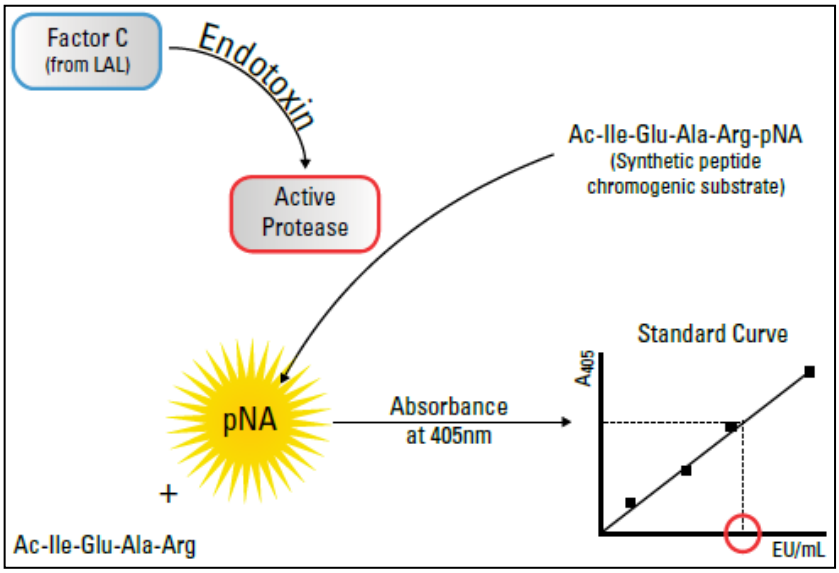
Interchim selected

- Superior endotoxin tests
  - LAL Chromogenic Endotoxin Quantitation Kit
- Efficient supports to selectively bind and removes endotoxins from protein, peptide and antibody samples
  - Detoxi-Gel Endotoxin Removal Gel – economic and effective method
  - High Capacity Endotoxin Removal (& EndoTrap Resin) – non toxic and high load method

LAL Chromogenic Endotoxin Quantitation Kit

Measure endotoxin levels in your protein sample quickly and accurately.

The LAL Chromogenic Endotoxin Quantitation Kit measures the amount of endotoxin in a protein, peptide or antibody sample using the Limulus Amebocyte Lysate (LAL) assay. The endotoxin concentration in a sample is measured via a chromogenic signal generated in the presence of endotoxins. A standard curve is created using the E. coli endotoxin standard included with each kit to calculate endotoxin levels as low as 0.1 EU/mL, where one endotoxin unit/mL (EU/mL) equals approximately 0.1ng endotoxin/mL of solution. Up 50 samples can be measured on a microplate absorbance reader at 405nm in as few as 30 minutes.



Endotoxin Quantitation Reaction Scheme
LAL Chromogenic Endotoxin Quantitation Kit reaction scheme. A small volume of the sample (10µL) is combined with the Limulus Amebocyte Lysate, and endotoxins in the sample activate the proteolytic activity of Factor C. When the chromogenic substrate is added, the activated protease catalyzes the cleavage of p-nitroalinine (pNA), resulting in yellow color that can be quantitated by measuring the absorbance at 405nm (A405) and extrapolating against a standard curve.

Benefits:

- **Sensitive** – detect as little as 0.1EU/mL
- **Fast** – perform this assay in 30 minutes
- **Economical** – assay requires only 10µL of a protein sample, in 96-well microplate
- **Accurate** – E. coli O111:B4 standard in each kit enables accurate endotoxin quantitation
- **Versatile** – 405nm absorbance reading is compatible with common ELISA plate readers

Applications:

Quantitation of endotoxin levels in a protein, peptide or antibody solution

Ordering Information:

LAL Chromogenic Endotoxin Quantitation Kit **88282** 1kit of 50tests

Multi-component kit, to perform50 microplate assays with 50µL samples containing 0.1 to 1 endotoxin units/mL

Kit Contents: Limulus Amebocyte Lysate (LAL), 2 vials
E. coli O111:B4 Endotoxin, 1 vial
Chromogenic Substrate, 1 vial
Endotoxin-free water, 1 vial

Product Details:
The LAL method for measuring endotoxin is based on the interaction of endotoxins with the proenzyme Factor C found in circulating amebocytes of the horseshoe crab Limulus polyphemus. The proteolytic activity of this proenzyme is activated in the presence of lipopolysaccharides (endotoxins) derived from the outer cell membrane of gram-negative bacteria such as E. coli. The Chromogenic Limulus Amebocyte Lysate assay measures endotoxin levels by measuring the activity of this protease in the presence of a synthetic peptide substrate that releases p-nitroaniline (pNA) after proteolysis, producing a yellow color that can be measured by reading the absorbance at 405nm.

To accurately measure endotoxin levels in a sample, the LAL assay uses an endotoxin standard of known concentration that is derived from E. coli strain O111:B4. This standard is provided with each kit and is used to create a standard curve. The endotoxin concentration is determined by extrapolating the absorbance of an unknown sample against this standard curve, similar to ELISA or total protein quantitation assays.

Detoxi-Gel Endotoxin Removal Gel

Eliminate worries about endotoxins interfering with your test results.
Detoxi-Gel Endotoxin Removing tools provide a quick method for removal of endotoxins (lipopolysaccharides or LPS) from biological samples. Resin uses immobilized polymixin B to remove pyrogens by binding their lipid A domains.

Benefits:

- **Efficient removal of Endotoxin, LPS, pyrogens**
  1 ml of gel removes >9 995 EU from a 10 000 EU challenge of LPS (greater than 99% efficiency)
  1 ml of gel binds 4000-6000 E.U. of the lipopolysaccharide from E. Coli strain 055:BS

- **Quickly** reduces endotoxin levels with **>85% Revovery of many samples**,
  Effective in protein solutions, cell culture media, solutions containing pharmacological components and aqueous buffers
  Protein recovery dependent upon protein type and concentration; some empirical testing required

- **Stable and reusable**
  The resin can be regenerated by stripping off the endotoxins with a 1% deoxycholate solution in pyrogen-poor water; no loss in binding capacity even after 10 regenerations. Available as a slurry to pack a custom column or in convenient pre-packed, single-use spin columns optimized for different sample volumes.

Detoxi-Gel Endotoxin Removing Gel **408410, 10mL** **408412, 1L**
Polymixin B on crosslinked 6% beaded agarose slurried in 25% ethyl alcohol
Sufficient For: Binding approx. 10 000 endotoxin units of LPS per mL of resin per use

Detoxi-Gel Endotoxin Removing Columns **L76971, 1 mL**
5mL-capacity columns containing 1mL of resin
Sufficient for binding approx. 10 000 endotoxin units of LPS per column per use

High Capacity Endotoxin Removal Resin

Endotoxin levels in biological samples are reduced by ≥99% in as fast as 1 hour using our spin column format, and protein recovery is ≥85%. It uses modified ε-poly-L-lysine [poly(ε-lysine)] affinity grafted onto porous cellulose. It is not toxic, unlike Polymixin B.
High Capacity Endotoxin Removal Resin is available as a slurry to pack a custom column or in convenient pre-packed, single-use spin columns optimized for different sample volumes.

- **High capacity** – bind up to 2 000 000EU/mL to eliminate >99% of endotoxins
- **Durable** – Stable resin, reusable up to 10 times
- **Selective** – recover ≥85% of your protein sample
- **High performance** – complies with FDA guidelines by reducing final EU concentration to <5 EU/mL
- **Fast** – our new spin column format enables endotoxin depletion within 1 hour
- **Clean** – single-use spin columns avoid cross contamination of samples
- **Optimized** – spin columns are optimized for different sample volumes
- **Economical** – large-volume discounts available

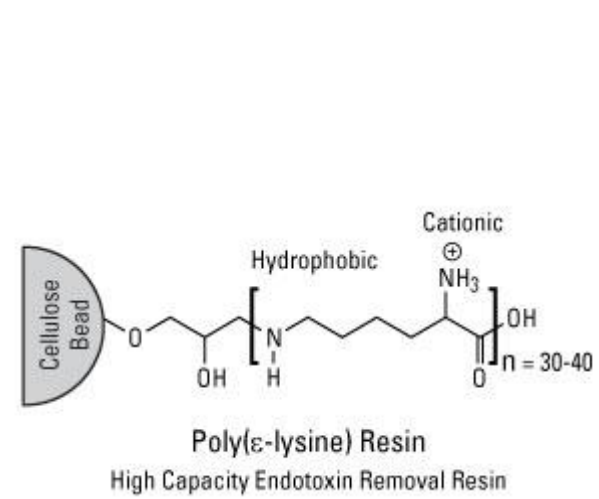
High Capacity Endotoxin Removal Resin **KV5611, 10mL** **KV5612, 100mL** **KV5613, 250mL** **KV561-Bulk**
Proprietary ligand on beaded cellulose slurried in 20% ethanol
Sufficient for removing >99.9% of 10,000 endotoxin units (per mL of resin) from 5mL test samples

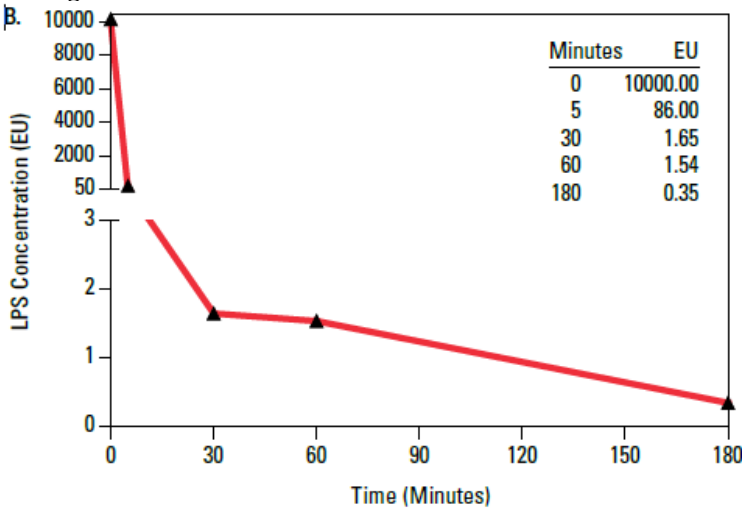
High Capacity Endotoxin Removal Spin Columns, 0.25mL **IUE780, 5 columns**
5mL-capacity centrifuge columns containing 0.25mL resin
Sufficient for removing >99.9% of the endotoxin present in typical 0.5 to 1mL samples

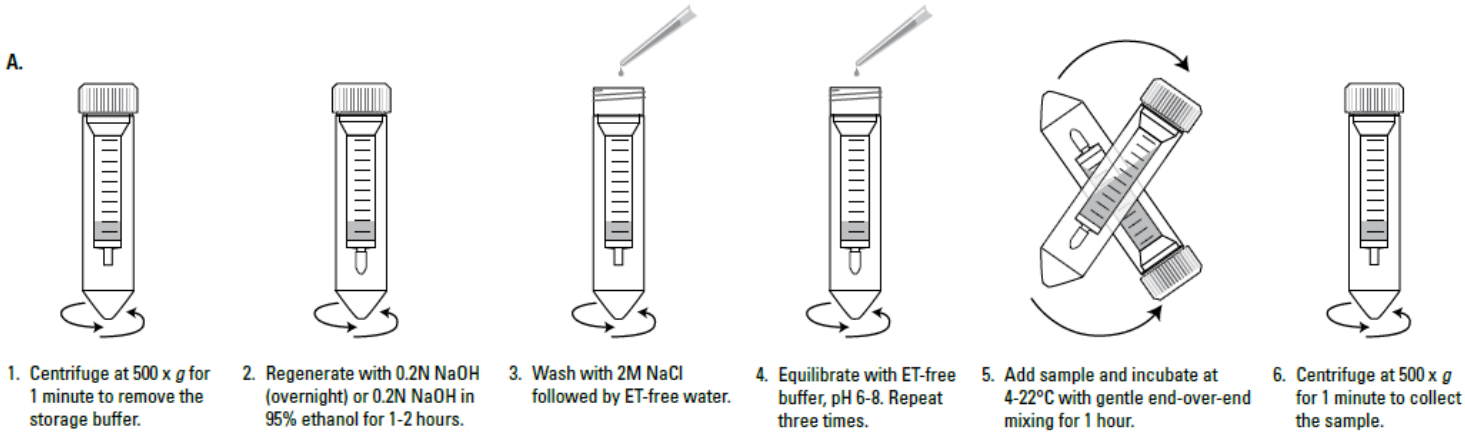
High Capacity Endotoxin Removal Spin Columns, 0.5mL **IUE781, 5 columns** **IUE782, 25 columns**
8mL-capacity centrifuge columns containing 0.5mL resin
Sufficient for removing >99.9% of the endotoxin present in typical 1 to 4mL samples

High Capacity Endotoxin Removal Spin Columns, 1mL **IUE5621, 5 columns** **IU5622, 25 columns**
22mL-capacity centrifuge columns containing 1mL resin
Sufficient for removing >99.9% of the endotoxin present in typical 2 to 10mL samples

HC Endotoxin Removal columns : Principle | result | operating







Other Endotoxin Detection Assays and Removal Supports

• **ToxinSensor™ Chromogenic LAL & Gel Clot Endotoxin Assay Kits** #QZ9610&QZ9620
See PH-BB190e

• **EndoLISA® Endotoxin Detection**
The efficient alternative to LAL - combining highly specific LPS/phage-protein binding and complete removal of sample matrix for a clear-cut detection with recombinant Factor C (rFC).

• **ToxinEraser™ Endotoxin Removal resin and reagents**
See PH-BB190e

• **EndoTrap® affinity chromatography,** for highly efficient endotoxin removal.
reliably removes endotoxins (lipopolysaccharides / LPS) from aqueous solutions of e.g. proteins, antibodies, vaccines, nucleic acids, buffers and various other substances with very high capacitu while excellent sample recovery rates.
EndoTrap blue: with a broad pH and salt tolerance, works best with calcium or magnesium compatible buffers such as TRIS, HEPES, MOPS but als o PBS, if enriched freshly with 0.1 mM Ca/Mg2+.
EndoTrap red: especially for the use with PBS based samples.
EndoTrap HD: for challenging samples and large scale endotoxin removal in e.g biopharmaceutical production processes.

• **Cellufine Endotoxins removal**

Related products and documents

• **Endotoxins and Endotoxin-free products**: search, i.e.

ENDOTOXINES #B8163

ENDOTOXIN INHIBITOR #96220 309&505

WATER, Sterile, Pyrogen Free, Endotoxin Free #IU638A, 1L Technical Sheet

• Other / Inquire

• Products HighLights Overview:

interchim 211 bis Av. J.F. - BP 1140 03103 Montluçon Cedex - Tel. 33 (0) 4 70 03 88 55 - Fax 33 (0) 4 70 03 82 60
e-mail interchim@interchim.com - web www.interchim.com

Cell Viality assays, i.e. **UptiBlue** cell viability agent: superior alternative to MTT assays

Information inquire

Reply by Fax : +33 (0) 4 70 03 82 60 or email at interbiotech@interchim.com

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_____

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