



GLUCAN DETECTION

Glucan Detection

GlucateLL® Kit

(1→3)-β-D-Glucan Detection

The GlucateLL® kit is specific for detection of (1→3)-β-D-glucan (BG). BG is considered a contaminant in parenteral drugs, solutions, and medical devices due to BG's bioactivity as an activator of innate immunity and its capacity to enhance bacterial endotoxin tests.

The GlucateLL® assay is based upon a modification of the Limulus Amebocyte Lysate (LAL) pathway. GlucateLL® reagent is processed to eliminate Factor C, and is therefore specific for (1→3)-β-D-glucan. The reagent does not react with other polysaccharides, including beta-glucans with different glycosidic linkages. GlucateLL® is a chromogenic reagent that may be used to perform either kinetic or endpoint assays in microplate readers. Literature references to the bioactivity of BG may be found at acciusa.com/pdfs/BG_Biol_Activity_Ref_List_PR16023.pdf.

Sensitivity

The sensitivity for GlucateLL® assay is determined by the lowest standard concentration on the standard curve used for the assay. The maximum sensitivity for GlucateLL® is 3.125 pg/mL when used with a microplate reader.

Sample to GlucateLL® Ratio

- **Kinetic Assay:** Reconstituted GlucateLL® reagent is used at a ratio of 1:4 and a volume of 100 µL/well (55 tests/vial).
- **Endpoint Assay:** Reconstituted GlucateLL® reagent is used at a ratio of 1:1 and a volume of 50 µL/well (55 tests/vial).

Performing the Test

- **Kinetic Assay:** The GlucateLL®/sample mixture is incubated at 37±1°C in a microplate reader. Software is used to construct the standard curve and calculate glucan concentrations.
- **Endpoint Diazo Assay:** The GlucateLL®/sample mixture is incubated at 37±1°C in a microplate heating block for the recommended time period. 50 µL each of the three diazo reagents are then added to the mixture. Software is used to construct the standard curve and calculate glucan concentrations.

Reconstitution

GlucateLL® reagent can be reconstituted differently depending on the assay you use.

- **Kinetic Assay:** Combine 2.8 mL each of Pyrosol® and reagent grade water.
- **Endpoint Assay:** Use 2.8 mL of only Pyrosol® reconstitution buffer.

Stability

Store all reagents at 2–8°C in the dark. Once reconstituted, GlucateLL® reagent should be stored at 2–8°C and used within 2 hours. Alternatively, reconstituted GlucateLL® reagent can be frozen at -20°C for 20 days, thawed once and used. The diazo reagents should be used the day they are prepared.

Product Applications

- Analyzing final products for (1→3)-β-D-glucan
- Investigating BET Out-of-Specification results
- Qualifying raw materials
- Monitoring cellulosic filter extractables
- Monitoring fungal fermentation processes
- Analyzing fermentation and cell culture media
- Monitoring airborne glucan burden

Packaging

The GlucateLL® kit is available as either an endpoint or kinetic chromogenic assay for use in microplates. The kit contains the GlucateLL® reagent, a (1→3)-β-D-glucan standard, buffer, glucan-free water, glucan-free microplates, and diazo reagents (endpoint kit only).

Glucan Detection Ordering Information

GlucateLL® Kit

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| #GT002 | Kinetic assays, 110 tests |
| #GT003 | With diazo reagents for endpoint assays, 55 tests |
| #GT004 | Kinetic assays, 55 tests |

Microplate Reader

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| #EPOCH2NS-SN-D | Epoch 2 Incubating Microplate Reader (software sold separately) |
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Pyros® Express

Endotoxin and Glucan Analysis Software

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| #PEXS | Pyros® eXpress Software Package (USB media, 1 Workgroup License ¹ , 1 Reader License ² and Software Support ³) |
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Accessory Products

Pipette Tips

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| #PPT25 | 250 µL tips, 96 tips/box, 10 boxes/pack |
| #PPT10 | 1000 µL tips, 96 tips/box, 8 boxes/pack |

Pyrotubes®

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| #TB013-5 | 13 x 100 mm borosilicate glass (for dilutions only) 18 tubes/pack, 5 packs/carton |
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GLUCATELL® TEST KIT

(#GT002 for Kinetic Assays shown)





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