



EndoToxFree™ DPBS (1X), USP Grade

Endotoxin Free Buffer for Critical Research Applications

OVERVIEW

EndoToxFree™ DPBS (1X), is an ultra-pure, USP Grade Dulbecco's phosphate-buffered saline, formulated without calcium and magnesium. Manufactured under stringent conditions, ensuring an endotoxin level of <0.005 EU/mL, this buffer is specifically designed for sensitive cell culture and research applications where endotoxin contamination could compromise results.

UNDERSTANDING ENDOTOXIN CONTAMINATION

What Are Endotoxins?

Endotoxins are lipopolysaccharide (LPS) components found in the outer membrane of Gram-negative bacteria. Even in trace amounts, these toxic compounds can severely disrupt cell culture experiments and research outcomes.

Sources of Endotoxin Contamination

- **Raw Materials:** salts and excipients can carry endotoxins if improperly processed
- **Equipment and Surfaces:** inadequate cleaning and sterilization increases risk
- **Environmental Exposure:** cross-contamination during handling or storage

Research Impacts of Endotoxin Contamination

Even trace amounts of endotoxins can severely affect your experimental results.

- **Unwanted cytokine release** in immune cell lines (e.g., THP-1, RAW 264.7)
- **Compromised viability and differentiation** of stem cells and primary cells
- **Significant batch-to-batch variability** in assay results
- **False positive/negative results** in inflammation-related assays
- **Artificial immune activation** leading to unreliable data



KEY BENEFITS OF EndoToxFree DPBS (1X), USP Grade

- **Ultra-low endotoxin levels (<0.005 EU/mL)** eliminate interference that can compromise your critical experiments
- **USP Grade quality** ensures high purity and consistent composition from batch to batch
- **Calcium and magnesium-free formulation** gives precise control over cell behavior
- **Reliable, reproducible results** across manufacturing lots
- **Regulatory compliance support** for smooth transitions from research to GMP manufacturing

Calcium and Magnesium Free for Enhanced Cell Control

- **Supports cell detachment** – Eliminating calcium and magnesium ions prevents ion-mediated cell adhesion during cell harvesting procedures.
- **Prevents Unwanted Reactions** – Calcium and magnesium can activate certain enzymes or signaling pathways, potentially affecting experimental outcomes.
- **Avoids Precipitation or Contamination** – In some biochemical or immunological experiments, these ions might cause unwanted precipitation or interactions

RESEARCH APPLICATIONS THAT BENEFIT FROM ENDOTOXIN-FREE REAGENTS

Reproducibility, sensitivity, and accuracy of your research can be directly impacted by endotoxin contamination. EndoToxFree™ DPBS is critical for:

Immunology Research

- Prevents artificial stimulation of macrophages and dendritic cells
- Maintains native immune cell behavior for accurate cytokine profiling
- Essential for LPS-sensitivity studies and inflammation research

Stem Cell Research

- Preserves normal proliferation and differentiation pathways
- Prevents unwanted immune activation that can alter cell fate
- Critical for maintaining stemness characteristics

Drug Discovery & Screening

- Eliminates compound-endotoxin interactions that confound results
- Ensures accurate assessment of drug efficacy and toxicity
- Reduces false positives in high-throughput screening assays

Cell and Gene Therapy R&D

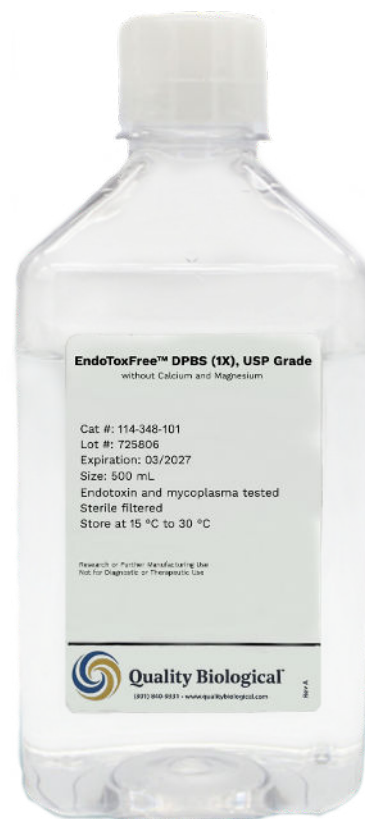
- Maintains native-like cell behavior *in vitro*
- Essential for accurate translation research
- Supports regulatory compliance for therapeutic development

PERFORMANCE BENEFITS

Feature	Research Impact
Improved Reproducibility	Consistent results across replicates and experimental batches
Enhanced Cell Viability	Reduced unintended immune activation and cellular stress
Increased Assay Sensitivity	Eliminates LPS interference in cytokine and ELISA-based assays
Reliable Comparisons	Critical for peer-reviewed validation and publication
Cost Efficiency	Minimizes repeat experiments due to contamination issues

PRODUCT SPECIFICATIONS

Product Name	EndoToxFree™ DPBS (1X), USP Grade
Item Number	114-348-101
Volume	500 mL
Endotoxin Level	<0.005 EU/mL (Guaranteed)
Formulation	without Calcium and Magnesium
Water Quality	Cell Culture, WFI Quality
Testing	Endotoxin level, sterility, and mycoplasma



For Research or Further Manufacturing Use. Not for Diagnostic or Therapeutic Use.

RELATED PRODUCTS

[Water, Endotoxin-Free, Item #118-325-101 \(500 mL\)](#)

[Water, Endotoxin-Free, Item #118-325-131 \(1000 mL\)](#)

[EndoToxFree™ PBS \(1X\), pH 7.4, USP Grade #114-322-131 \(1000 mL\)](#)

For technical support or additional product information contact [Quality Biological Technical Service](#)

For a complete listing of Quality Biological products, visit qualitybiological.com



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