

# Corning® Serum Products

CORNING

## Choose value and reliability

Corning high quality sera and specialty sera products complement our wide range of sterile, low endotoxin classic cell culture media. Corning sera products are developed in accordance with industry standards and USP methods.

## Corning offers:

- ▶ Regular (non-U.S. sourced) and premium (U.S. sourced) fetal bovine serum, including heat inactivated options
- ▶ Donor calf and donor horse serum
- ▶ Human AB serum
- ▶ Speciality sera, including dialyzed, gamma irradiated, ES cell tested, low IgG, charcoal stripped, and tetracycline negative FBS
- ▶ Collection from the U.S. and USDA-certified facilities around the world



## Origin

Our serum products are collected from controlled standing herds of animals located in the U.S. or from worldwide collection sites such as Mexico, Canada, Australia, New Zealand, Central America, and South America.

## Collection and Processing

Blood is aseptically collected according to industry standards. Serum is separated from the collected blood by refrigerated centrifugation and frozen immediately. Only serum that meets strict specifications is approved for sale after production.

## Filtration

The raw pooled serum is filtered through a triple series of 0.1 µm sterilizing grade filters. The sterile filtered serum is put through a polishing filter before final packaging. The serum is dispensed in a controlled environment following aseptic practices.

## Packaging

The final product is tested for physiochemical properties and bacterial endotoxin per the current US Pharmacopeia. To maintain sterility, products are filled in gamma irradiated bottles with sterility assurance level of 10<sup>-6</sup>.

## Serum Components and Use

The major components in serum are BSA (bovine serum albumin), hormones, growth factors, enzymes (e.g., lactate dehydrogenase), non-protein hormones, lipids, trace elements, minerals, and nutrients.

## Common Cell Lines Using Sera

- ▶ CHO
- ▶ hES
- ▶ Endothelial
- ▶ Hepatoma
- ▶ Sf9
- ▶ Sf21
- ▶ DS2
- ▶ Hybridoma
- ▶ HeLa
- ▶ MDCK
- ▶ HL-60
- ▶ A549
- ▶ LLC-PK1
- ▶ VERO
- ▶ COS-7
- ▶ L-929

## Biochemical Profile

Serum lots are analyzed using some or all of the following parameters:

- ▶ Total bilirubin
- ▶ Calcium
- ▶ Albumin
- ▶ Creatinine
- ▶ LDH
- ▶ Uric acid
- ▶ Alkaline phosphatase
- ▶ Potassium
- ▶ Chloride
- ▶ Cholesterol
- ▶ Sodium
- ▶ Phosphorous
- ▶ Triglycerides
- ▶ Osmolality
- ▶ Mycoplasma/ureaplasma
- ▶ Total protein
- ▶ SGOT
- ▶ SGPT
- ▶ Glucose
- ▶ BUN
- ▶ pH



## Final Product Quality Control

A representative number of serum samples from each production lot are analyzed using the following criteria:

**pH** – The pH is measured to verify compliance with the product specification. All equipment is calibrated using standards which are traceable to the National Institute of Standards and Technology (NIST).

**Osmolality** – The osmolality of each serum lot is measured to verify compliance with the product specification. All equipment is calibrated using standards which are traceable to the NIST.

**Sterility Testing** – The sterility of the final product is tested to confirm the absence of bacterial and fungal contaminants in representative samples of each lot using the direct inoculation method as described in the current edition of the USP.

**Hemoglobin Testing** – To verify that proper collection and processing procedures have been followed, a quantitative, colorimetric assay is performed to determine if the residual hemoglobin concentration in each product lot is in compliance with product specifications.

**Mycoplasma/Ureaplasma** – Each final product lot is tested to confirm the absence of mycoplasma and ureaplasma for 28 days using the Large Volume Agar and Broth technique. All Corning serum lots must test negative for mycoplasma following the Code of Federal Regulations (CFR) Title 9 Part 113.53 to qualify as product for our customers.

**Viral Testing** – Where applicable, each lot of serum is tested for adventitious viruses using cell culture techniques, which use modified procedures adapted from the CFR Title 9 Part 113.53, “Requirements for Ingredients of Animal Origin.”

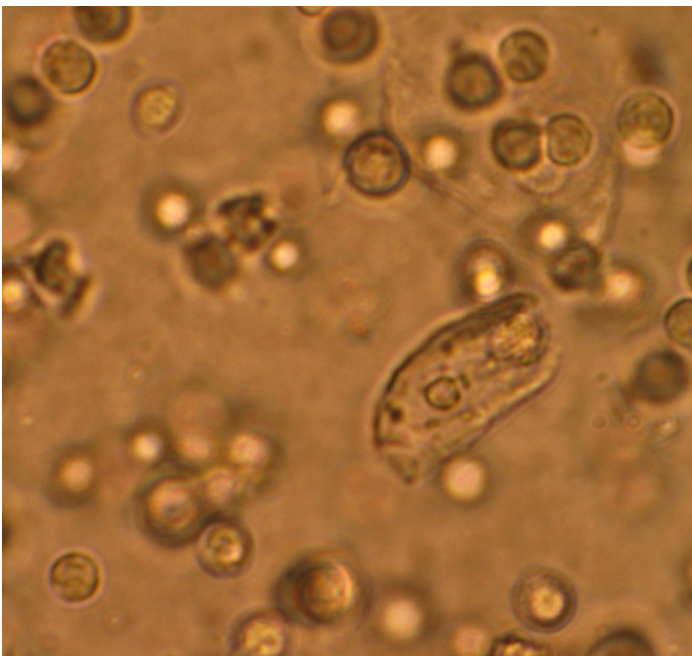
**Endotoxin Test (LAL)** – Each lot is tested for bacterial endotoxin using the Limulus Amebocyte Lysate (LAL) assay. Testing guidelines follow the current USP per internal procedures.

**Total Protein** – To verify animal age and compliance with the product specifications, the total serum proteins are measured.

**Serum Identity/Integrity** – Each lot of serum is certified for identity and integrity.

**Heat Inactivation** – Heat inactivated sera has been heated at 56°C for 30 minutes.

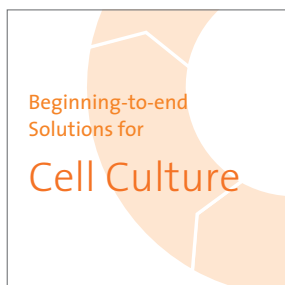
**Growth Promotion** – Each lot of serum is tested for its ability to support *in vitro* growth of specific cell lines in addition to passing stringent quality control tests, such as cloning efficiency, cytotoxicity, and plating efficiency.



## Ordering Information

Cat. No.	Description	Unit Size	Qty/Pk
35-010-CV	Fetal bovine serum, regular	500 mL	1
35-011-CV	Fetal bovine serum, regular (heat inactivated)	500 mL	1
35-015-CV	Fetal bovine serum, premium	500 mL	1
35-016-CV	Fetal bovine serum, premium (heat inactivated)	500 mL	1
35-022-CV	Donor calf serum, U.S. sourced	500 mL	1
35-030-CV	Donor horse serum, U.S. sourced	500 mL	1
35-060-CI	Human AB serum	100 mL	1
35-070-CV	Fetal bovine serum, gamma irradiated	500 mL	1
35-071-CV	Fetal bovine serum, dialyzed	500 mL	1
35-072-CV	Fetal bovine serum, charcoal stripped	500 mL	1
35-073-CV	Fetal bovine serum, Low IgG	500 mL	1
35-074-CV	Fetal bovine serum, ES cell tested	500 mL	1
35-075-CV	Fetal bovine serum, Tetracycline negative	500 mL	1
35-076-CV	Fetal bovine serum, Australia sourced	500 mL	1

**Warranty/Disclaimer:** Unless otherwise specified, all products are for research use only. Not intended for use in diagnostic or therapeutic procedures. Not for use in humans. Corning Life Sciences makes no claims regarding the performance of these products for clinical or diagnostic applications.



[www.corning.com/lifesciences/solutions](http://www.corning.com/lifesciences/solutions)

At Corning, cells are in our culture. In our continuous efforts to improve efficiencies and develop new tools and technologies for life science researchers, we have scientists working in Corning R&D labs across the globe, doing what you do every day. From seeding starter cultures to expanding cells for assays, our technical experts understand your challenges and your increased need for more reliable cells and cellular material.

It is this expertise, plus a 160-year history of Corning innovation and manufacturing excellence, that puts us in a unique position to offer a beginning-to-end portfolio of high-quality, reliable cell culture consumables.

For additional product or technical information, please visit [www.corning.com/lifesciences/media](http://www.corning.com/lifesciences/media) or call 1.800.235.5476.

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