Charcoal/Dextran Treated FBS, US Origin

HYCLONE SERA

DOMINIQUE DUTSCHER SAS

HyClone™ charcoal/dextran treated fetal bovine serum (FBS) is available for users requiring reduced levels of various hormones (Fig 1). High-quality FBS is processed using a proprietary charcoal/dextran treatment that has been shown to reduce the levels of many hormones and growth factors. This serum is assayed for a variety of components before and after treatment to ensure the efficacy of the treatment. Charcoal/dextran treatment has been shown to be effective in reducing steroid levels for use of the serum in receptor studies or estrogen-related investigations. Other studies indicate that charcoal/dextran treatments may be used to minimize lot-to-lot serum variability.

Charcoal/Dextran Treated FBS is filtered through three sequential 100 nm (0.1 µm) pore size-rated filters. Before dispensing, each lot of serum is pooled using true pool technology to ensure uniformity and consistency between bottles.

Key features of Charcoal/Dextran Treated FBS, US Origin

- Reduce levels of various hormones and growth factors
- Sourced in the USA
- Complete traceability back to original source
- Virus panel testing according to 9 CFR 113.53

Product storage and handling

Serum should be stored at -10°C or lower. Once thawed, serum should be stored at 2°C to 8°C for up to six weeks in order to maintain quality. If the serum needs to be stored longer than six weeks after opening, it is recommended to aliquot the serum into convenient volumes and refreeze. Handle bottles that have been stored in the freezer carefully. Avoid large temperature shifts and protect the serum from exposure to light. Refer to safety data sheet for any safety recommendations. Storage requirements are listed on the product label.

Thawing

Remove serum from storage at -10°C or lower and place in a refrigerator overnight at 2°C to 8°C. Transfer the serum to a 37°C water bath, agitate periodically to mix the solutes concentrated at the bottom of the container. Do not hold the serum at 37°C any longer than necessary after thawing. Thawing serum in a bath above 40°C without mixing can denature the concentrated proteins in the bottom of the container and precipitates might form in the bottle. Thawing serum at higher temperatures is not recommended.

Alternatively, bottles can be placed directly from storage at -10°C or lower into a 37°C water bath. Bottles should be agitated to enhance mixing and thawing. Turbidity and flocculent material might be present after thawing or after prolonged storage.



Fig 1. Charcoal/Dextran Treated FBS, US Origin.

Table 1. Test specifications

Endotoxin (Limulus amebocyte lysate gel clot assay)	≤ 10 EU/mL
Hemoglobin (spectrophotometric)	≤ 20 mg/dL
Sterility testing (current USP)	
Bacteria and fungi	No growth
Virus Testing (9 CFR 113.53)	
Fluorescent antibody	
Bluetongue	Not detected
Bovine adenovirus	Not detected
Bovine parvovirus	Not detected
Bovine respiratory syncytial virus	Not detected
Bovine viral diarrhea virus	Not detected
Rabies	Not detected
Reovirus	Not detected
Cytopathogenic agents (e.g., IBR)	Not detected
Hemadsorbing agents (e.g., PI3)	Not detected
Mycoplasma	
Large volume, direct culture	Not detected
Hoechst™ DNA stain	Not detected
Certificate of suitability	Included

Experience indicates that regardless of the method used to thaw serum, it is critical that it is mixed during the thawing process to prevent the formation of gradients and subsequent precipitation. Because of differences in thawing rates of different components, serum will form a gradient if it is not mixed as it thaws. If serum is allowed to remain in such a gradient state, precipitation is likely to occur.

Quality control testing

Charcoal/Dextran Treated FBS is assayed for progesterone, sodium, testosterone, potassium, cortisol, calcium, corticosterone, chloride, follicle stimulating hormone (FSH), inorganic phosphorus, luteinizing hormone (LH), glucose, insulin, albumin, triiodothyronine (T3), blood urea nitrogen, thyroxine (T4), creatinine, thyroid stimulating hormone (TSH), total bilirubin, parathyroid hormone (PTH), calcitonin, 17 beta estradiol, estrone, alkaline phosphatase, lactate dehydrogenase, glutamic pyruvic transaminase (SGPT), glutamic oxaloacetic transaminase (SGOT), thiamine (B1), riboflavin (B2), pyridoxine (B6), nicotinic acid (niacin), vitamin H (biotin), vitamin A (retinol), carotene, total vitamin E (tocopherol), cyanocobalamine (B12), pteroylglutamic acid (folate), vitamin C, 1,25 dihydroxy vitamin D, total protein, and IgG. Assays are subject to change without notice.

Test specifications are listed in Table 1. Results are provided as a courtesy for information only.

General culture recommendations

Supplementation of classical media such as Dulbecco's Modified Eagle's Medium (DMEM) is recommended at a range between 5% and 10% Charcoal/Dextran Treated FBS to support culture of a wide variety of cell lines and applications.

Related products

HyClone classical media

HyClone classical media are manufactured using ISO 9001- and ISO 13485-certified processes. All raw material components have passed strict quality control testing to ensure the appropriate level of quality. The classical media are hydrated using purified process water and have undergone 0.1 µm sterile filtration.

HyClone phosphate buffered saline (PBS)

Our PBS products are manufactured using ISO 9001- and ISO 13485-certified processes. The products have full traceability and documented origin of all formula ingredients.

HyClone trypsin protease

Our trypsin protease is derived from porcine pancreas and is gamma irradiated prior to hydration and filling. The product is formulated without calcium and magnesium.

Ordering information

Product	Size	Product code
HyClone Charcoal/Dextran Treated FBS, US Origin	50 mL	SH30068.01
	100 mL	SH30068.02
	500 mL	SH30068.03

Find certificates of analysis, safety data sheets, standard formulations, product inserts, and protocols at cytiva.com/hyclonecerts.

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