

## Product Information

Fetal Bovine Serum Advanced

Cat. No. FBS-11B, FBS-11A, FBS-HI-11B, FBS-HI-11A

### General Information

Serum is the blood component obtained after coagulation and removal of cellular components. Besides serum proteins it contains e.g. growth factors, amino acids and hormones. This comprehensive mix makes serum one of the most important supplements for supporting cell growth and proliferation in *in vitro* cell culture. Of special interest is fetal bovine serum (FBS). It is especially rich in growth factors and low in antibodies, which may influence the cell culture work.

Raw FBS is a natural product obtained from bovine blood showing significant batch variations due to various environmental influences e.g. nutrition or health state of animals. Batch-to-batch variations of FBS can have major impacts on the reproducibility of scientific results. Capricorn Scientific's sophisticated treatment during pooling and filtering significantly reduces batch-to-batch variation in FBS Advanced. Furthermore, the serum content is reduced by addition of high quality albumin to achieve a stable performance. Once successfully tested on a cell line, usually no further batch testing is necessary.

#### Applications:

- Scientific research
- Calibration assays
- Fermentation
- Stabilizer in Diagnostic Assays

#### Features:

- Minimized batch-to-batch variation
- No further batch reservation necessary
- No synthetic additives
- Suitable for a great variety of cell lines

Product	Origin	Treatment	Volume	Cat. No.
Fetal Bovine Serum Advanced	Collected in South America	X	100 ml 500 ml	FBS-11B FBS-11A
Fetal Bovine Serum Advanced	Collected in South America	Heat Inactivated	100 ml 500 ml	FBS-HI-11B FBS-HI-11A

### Product Specifications

Appearance	Clear amber liquid
Storage and shelf life	Store at $\leq -15^{\circ}\text{C}$ . Avoid repeated freeze-thaw cycles. Preparation of aliquots recommended. Once opened store at $4^{\circ}\text{C}$ and use within 4-6 weeks.
Shipping conditions	Frozen (Dry ice)
Thawing	Overnight at $+2^{\circ}\text{C}$ to $+8^{\circ}\text{C}$ . Swirl gently to homogenize.

### Additional Optional Treatments

#### Heat Inactivation:

Capricorn Scientific offers also heat inactivated FBS Advanced. Heat inactivation inactivates the complement system, antibodies and other active enzymes. This must be done in a carefully controlled process in order to maintain the cell growth promoting properties of the serum and to reduce the formation of unwanted precipitates.

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The process involves heating the serum in a shaking water bath at exactly +56°C for 30 minutes. Shaking helps to prevent the formation of protein and other forms of precipitates. After 30 minutes the serum is cooled back down to room temperature as quickly as possible to avoid an over-exposure to heat which can damage growth factors and vitamins, etc.

### Gamma irradiation:

Capricorn Scientific has established process parameters and controls for maximum inactivation of contaminants by an innovative gamma irradiation process in small sized boxes at 25 – 35kGy. When FBS bottles are arranged in a pallet during gamma irradiation, high irradiation doses (58 kGy) are necessary to irradiate the centrally located bottles with the required dose (>30 kGy). This and the associated higher temperatures may affect the serum quality. If the irradiation is performed in single boxes, the maximum dose of irradiation does not exceed 38.7 kGy. Gentle irradiation as used by Capricorn Scientific is less likely to affect final serum quality.

## Quality Control

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Only serum batches which pass our strict quality control are released for sale. Standard parameters which are determined include pH, osmolality, content of protein, albumin, IgG and hemoglobin, endotoxin level, sterility, mycoplasma detection and virus testing.

## Precautions and Disclaimer

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This product is for research use only. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

## Help Needed?

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If you have any further questions regarding this product, please do not hesitate to contact our cell culture experts by email (techservice@capricorn-scientific.com) or phone (+49 6424 944640).