Choose for a
Cell culture more
Ethical
Economical
Reproductible
Efficient

Les Technologies Alterna Inc.

Ethical science with no compromise

Alterna.bio

Alternum

Fortified calf serum with unique properties for higher cell culture performances

Why changing now

Fetal bovine serum (FBS) is collected from fetuses extracted from pregnant cows brought at the slaughterhouse. This unethical process leads to :

- 1 000 000 pregnant cows and fetuses are killed each year.
- FBS is an undefined biological product, variable from batch to batch, with unpredictable yields and results.
- Pricing is highly fluctuant and mostly going up.

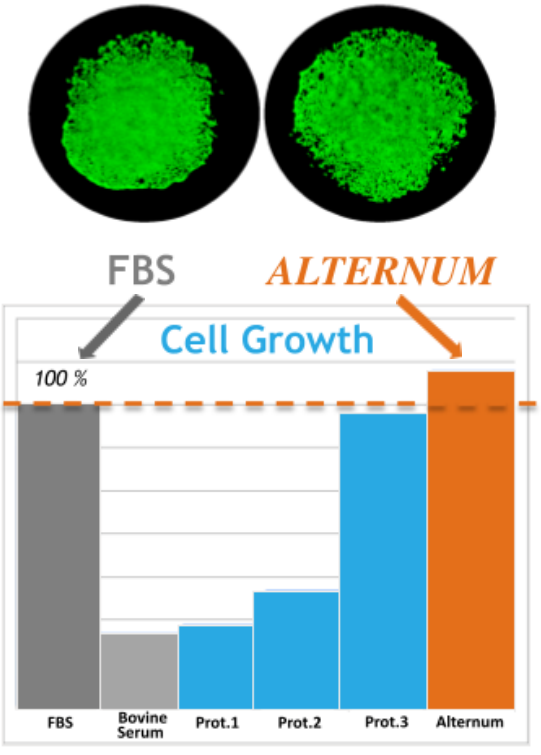
Alternum, a superior bio-equivalent

Alternum promotes cell growth with the same potency as FBS which had never been matched before.

Alterna proprietary manufacturing process allows for a better control of the end product composition, making it more defined and predictable from batch to batch.

No compromise on your results

Alternum promoted cell growth of HEK-293t cells with the same efficiency as FBS. Other cell lines such as M03.13 (oligodendrocyte), HT1080 (fibrosarcoma) and CAKI1 (carcinoma) responded in the same manner.



J. van der Valk, (2013). A plea to reduce or replace fetal bovine serum in cell culture media. *Cytotechnology*, *65*(5), 791-793. https://link.springer.com/article/10.1007%2Fs10616-013-9633-8

No compromise on cost

FBS price will vary greatly from 500$ to 1000$ for a 500 mL bottle. Because Alternum is not at the mercy of a rare raw product its price will be two to three times less than FBS.

Economical benefits are real and will allow you to do more of what is truly important, research, development and in turn more publications or margins.

No compromise on ethics

By choosing Alternum, you get the same results but contributing to a more responsible industry. High margins of FBS is an incentive for serum producers to keep bringing pregnant cows to the slaughterhouse. With no substitute that really works, there is no option. Alternum is the alternative without any compromise on your performances. Alternum is based on valorisation of discarded material from the food industry. In the end everybody wins.

For more informations or a try out:
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FREQUENTLY ASKED QUESTIONS

Where you product could be used?

It is intended for use in cell culture in academic and industrial R&D, in vitro fertilization, cloning of animal tissues and vaccine production.

Is it necessary to adapt the cells to your product?

Generally speaking - no. Sometimes you can see a slight slowdown in growth only in the first two or three passages. But some «whimsical» cells requires an adaptation even when switching lots of FBS. In a difficult case, follow our adaptation protocol.

Wouldn't you feel that replacing the ill-defined FBS with a semi-defined serum-based product is only shift the itching?

Not at all. We are going to stop the barbaric slaughter of pregnant cows for the blood of their fetus. By the way, we will save consumers money. It's a triple win strategy. For you, for us, for cows. And a semi-defined product will allow you tighter control of your experimental conditions than undefined FBS.

We use a fetal calf serum, FCS, not the FBS. What is the difference?

There is no difference. It's the same product under two different names.

What is the difference between origins of fetal and other bovine serums?

According to the age of the animal from which the blood was collected the serum is categorized as: "Fetal" — from unborn fetuses. "Newborn" — calves less than 20 days old. "Calf" — aged between 20 days and 12 months and "Adult" — older than 12 months.

We work with sensitive cell lines that require the high quality FBS. Is your product good for us?

Some manufacturers offer FBS of different qualities (this means different levels of harmful compounds). Our goal is to provide you with only one quality - the highest possible.

Do you have any "premium" lots, better than the others?

The ideal lot for you is the one that suits your particular application. We perform quality testing of each lot to ensure compliance with raw product specifications. We provide free lot samples and reserve material from the test batch during the customer’s lot testing.

Is your product sterile?

Yes. It’s sterile filtered into pre-sterilized PETG bottles. You must handle it aseptically. Sterility is not guaranteed after opening.

How long can your product be stored at +4°C?

It may be stored at +4°C for up to 2 month without diminishing its performance. However, depending on the cell lines used, the time during which the product can be stored in the refrigerator while maintaining its optimum performance may vary.

How long can I store media once I have added your product?

Sterile supplemented media can be stored for up to one month at +4°C

Is it possible to store your product at -20°C for an extended period of time?

Yes, the product is more stable when it is frozen until it is needed. Avoid freeze / thaw cycles, as this would negatively impact the quality of the product. Do not store it in a frost-free freezer, as temperature cycles can cause the bottles to crack.

What procedure do you recommend for freezing?

Below 0°C, the water first turns into ice and the proteins and salts tend to accumulate at the bottom of the bottle at a higher concentration. Therefore, slow freezing could lead to the formation of crystalline precipitates. Hence, the product should be frozen as quickly as possible.

There is a liquid in a bottle at freezing temperatures. What's going on?

The product has been finely filtered. There is therefore a lack of nucleation centers for icing to begin. You can give a click to the bottle, and the content will solidify instantly.

How should your product be thawed?

The method used to thaw serum is crucial to its optimum performance. The key to proper thawing is periodic agitation. Agitation suspends the contents to avoid prolonged exposure of the components to higher salt concentrations during thawing. The bottle taken out of the freezer must be acclimated to room temperature for 15 minutes. Then put it in the water bath at 30 ° C. Stir gently periodically until completely thawed.

Is it necessary to heat inactivate your product like the serum?

Heating is not an option because many nutrients, vitamins and growth factors, are heat-labile. Heat would only degrade them and compromise the useful properties of the product. By the way, heating will increase the appearance of precipitates and reduce shelf life. Formerly, inactivation of serum by heat was necessary because of concerns about the possible presence of contaminants. At this time, the serum was filtered through 0.45 micron filters unable to remove mycoplasmas.

What about the heat inactivation of the complement?

Sometimes it could be important for particular assays where complement may have an unwanted influence (cytotoxicity tests, viruses production and assays). In any case, we recommend that you determine if heating is actually required for your experimental systems.

Your product is serum-based. Is it subject to variability from one batch to another?

Yes, because the composition of the serum naturally varies from batch to batch. But semi-defined composition ensures a higher lot-to-lot reproducibility than FBS.

Why is the color of the product not exactly the same as my previous lot?

The color depends mainly on the hemoglobin concentration in the specific batch and not affect the product performance.

I see the precipitates in the bottle, is this fatal?

No, it’s normal.

Sometimes, after thawing or prolonged storage, turbidity, flocculating materials or crystalline precipitates may occur. They do not alter the performance of the product as a growth supplement for cell culture. Usually, these precipitates are composed of fibrin. Rapid cold processing is required to obtain a high quality serum. At the same time, low temperature coagulation allows some soluble fibrinogen to escape coagulation and remain in the serum. Freeze/thaw cycles can convert it to fibrin.

Do not try to filter the product to remove these precipitates (you will quickly clog the filter and lose valuable nutrients). Let the serum rest and, once the precipitates have fallen to the bottom of the bottle, decant.

And above all, don't confuse it with bacterial contamination.

Does your product contain any hazardous ingredients?

No, but use common sense when handling it.