

## ITS-X Media Supplement (100×)

### Introduction

ITS-X Media Supplement (100×) – fully named Insulin-Transferrin-Selenium-Ethanolamine Media Supplement (100×) – is a cell culture medium additive. It significantly reduces dependence on fetal bovine serum (FBS) by supplying essential components such as insulin, transferrin, selenium, and ethanolamine, and is commonly employed in serum-free or low-serum culture systems. The use of this supplement typically allows fetal bovine serum concentration to be lowered from 10% to 2-4%.

The insulin included in this product promotes cell metabolism and proliferation, transferrin supplies essential iron, selenium exerts antioxidant effects, and ethanolamine serves as a precursor of phosphoglycerides, helping to maintain the structure of plasma membranes and organelles. Additionally, we offer two ITS supplement variants: ITS (Cat. No. K2831) and ITS-A (Cat. No. K2832). The components of the different ITS supplements and their recommended culture media are listed in the table below.

This product is prepared in phenol red-free Earle's Balanced Salt Solution (EBSS), which is sterile-filtered and ready for direct use in cell culture.

| Components      | K2831                                         | K2832                                            | K2833                                                     |
|-----------------|-----------------------------------------------|--------------------------------------------------|-----------------------------------------------------------|
|                 | ITS (100×)                                    | ITS-A (100×)                                     | ITS-X (100×)                                              |
|                 | Concentration (g/L)                           |                                                  |                                                           |
| Insulin         | 1.00                                          | 1.00                                             | 1.00                                                      |
| Transferrin     | 0.55                                          | 0.55                                             | 0.55                                                      |
| Sodium Selenite | 0.00067                                       | 0.00067                                          | 0.00067                                                   |
| Sodium Pyruvate | -                                             | 11.0                                             | -                                                         |
| Ethanolamine    | -                                             | -                                                | 0.2                                                       |
| Medium          | MEM, RPMI-1640, or media with sodium pyruvate | MEM, RPMI-1640, or media without sodium pyruvate | MEM, F-12, DMEM, DMEM/F-12, or media with sodium pyruvate |

### Storage

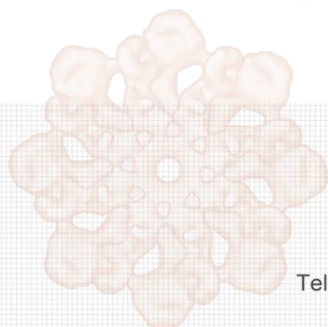
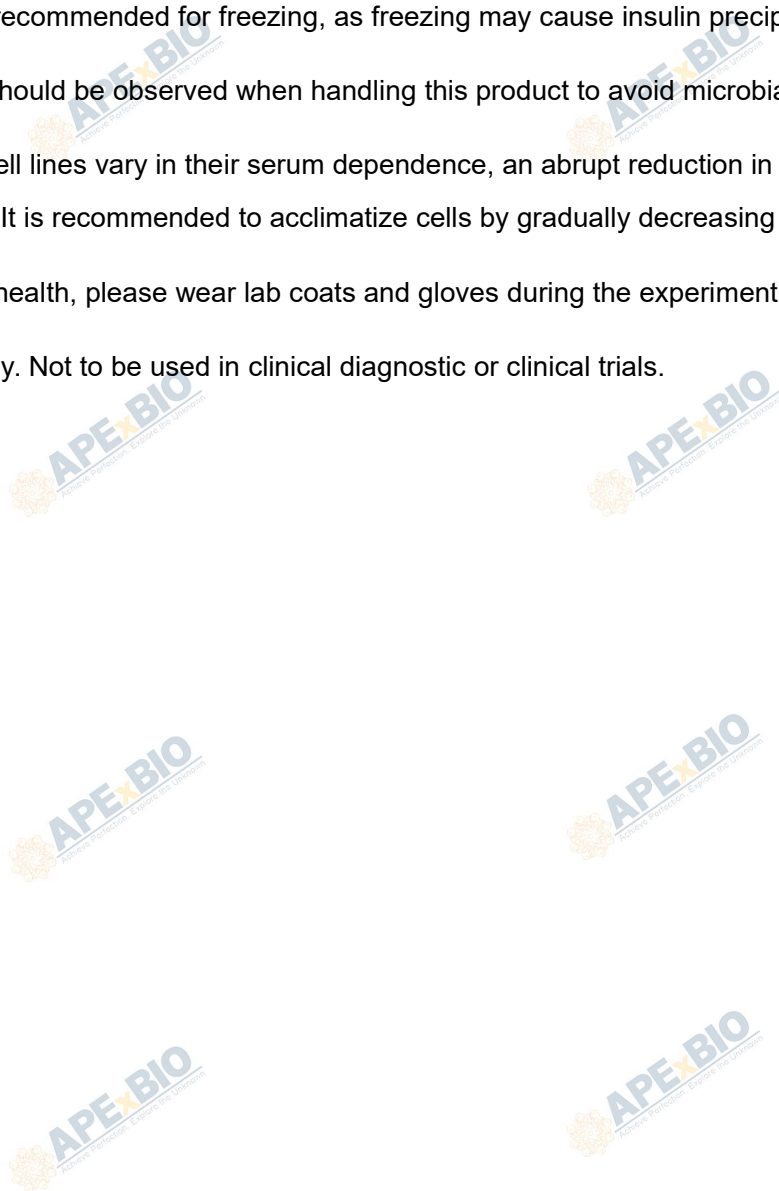
Store at 4°C protected from light, stable for 18 months.

## Protocol

1. Add ITS-X Media Supplement (100×) to the cell culture medium at a 1:100 dilution and mix well. For initial culture, supplement the medium with 2-4% fetal bovine serum. After the cells have adapted, the serum concentration can be gradually reduced.

## Note

1. This product is not recommended for freezing, as freezing may cause insulin precipitation.
2. Aseptic technique should be observed when handling this product to avoid microbial contamination.
3. Because different cell lines vary in their serum dependence, an abrupt reduction in serum concentration may affect growth rates. It is recommended to acclimatize cells by gradually decreasing the serum level.
4. For your safety and health, please wear lab coats and gloves during the experiment.
5. For research use only. Not to be used in clinical diagnostic or clinical trials.



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