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ITSE Animal-Free

Guidelines for Use

ITSE Animal Free™

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Recombinant Insulin, Recombinant Transferrin, Selenium, Ethanolamine 100x Supplement
Blood-free

Introduction

Insulin, transferrin, selenium and ethanolamine are typically required for optimal cell growth in serum-free media¹. Ethanolamine is a phospholipid precursor that improves the performance of cells in serum-free media² and is required for the growth of some cell types³. Insulin has cell signaling functions and promotes the uptake of glucose and amino acids⁴. Transferrin is a non-toxic carrier of iron and reduces the generation of toxic free-radicals and peroxide⁵. Selenium is required for the activity of glutathione peroxidase, thioredoxin reductase, and other antioxidant enzymes⁶.

Long Term Storage

It is recommended to store ITSE AF at 4°C, tightly sealed, and protected from light. ITSE is stable for 1 year when stored as recommended.

Instructions for Use

ITSE AF supplement is intended to replace blood-derived ITS and ITSE products. The components of ITSE AF do not contain blood derived components. ITSE AF is prepared as a 100x sterile concentrate in Earle's balanced salt solution. The formulation is below.

Component	g/L (100x)
Recombinant human insulin	1.00
Recombinat human transferrin (Optiferrin)	0.55
Sodium Selenite	6.70E-04
Ethanolamine	0.20

Use of ITSE AF may be used to reduce or eliminate serum. For serum reduction, the degree depends on the cell type. For serum-free cell growth, InVitria recommends ITSE AF in combination with Cellastim S. Some cell types may show additional benefit by supplementing media with ITSE AF at 2x final concentration. For further information or application of ITSE AF, please contact InVitria technical support at 1-800-916-8311.

References

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3. Tsao, M.C., Walthall, B.J., Ham, R.G. 1982. Clonal growth of normal human epidermal keratinocytes in a defined medium. J. Cell Physiol.110(2):219-229.
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6. Saito Y, Yoshida Y, Akazawa T, Takahashi K, Niki E. 2003. Cell death caused by selenium deficiency and protective effect of antioxidants. J. Biol. Chem. 278(41):39428-34.

