ITSP Solution, 100X

(Insulin-Transferrin-Selenium-Pyruvate) Contains 1000 mg/L Insulin, 550 mg/L Transferrin, 0.67 mg/L Sodium Selenite, 11000 mg/L Sodium Pyruvate in EBSS without phenol red

Cat. No. CITSP001 | Size: 20 ML / 100 ML

1. Product Description

ITSP Solution is a mixture of insulin, transferrin, selenium, and pyruvate dissolved in EBSS (Earle's Balanced Salt Solution, without phenol red). It promotes the growth of various adherent cells when serum such as FBS is used at low concentrations (0~4%) in the basal culture medium during cell culture. Insulin is involved in the intracellular uptake of glucose and amino acids, lipid synthesis, ion transport, and the synthesis of proteins and nucleic acids. Transferrin acts as an iron carrier and reduces the toxicity of oxygen radicals and peroxides. Selenite acts as a co-factor for various proteins and provides antioxidant functions in the culture medium. Pyruvate plays a role in generating energy through the Krebs cycle and is an important precursor for the synthesis of amino acids, fatty acids, and cholesterol. This product is a 100-fold concentrated solution and is used by diluting it 1/100 in the basal culture medium (e.g., adding 10 mL of ITSP, 100X to 1 L of basal culture medium). In particular, the insulin and transferrin contained in this product are raw materials manufactured using recombinant protein technology, making them suitable for cultures requiring animal component-free conditions.

2. Composition

Component	mg/L
Insulin (human, recombinant)	1000
Transferrin (human, recombinant)	550
Sodium Selenite	0.67
Sodium Pyruvate	11000
EBSS	1X

3. Product Quality Specifications

Appearance	pH	Osmolality	Sterility
Light orange clear liquid	7.3 ± 0.3	470 ± 30 mOsm/kg H_2O	Sterile

4. Storage Conditions and Precautions

Protect from direct light and store frozen (-20°C). The expiration date is indicated on the product label. Product degradation during storage may appear as precipitates, floating particles, or color change; discard if any are observed. Repeated freezing and thawing cycles may cause degradation, and the addition of extra substances may also cause degradation.

5. Usage Instructions and Precautions

Because this product is temperature-sensitive, thaw it primarily at low temperatures and warm (incubate) it at the actual working temperature (e.g., 37°C) for the minimum necessary time only before use. This product is a sterile solution. Open the cap only in a sterile environment (e.g., a clean bench) using aseptic technique. It is recommended to use the entire contents after opening; otherwise, aliquot into a suitable sterile container and store properly.