

Product Information

TC-100 Medium

with 4.1 mM L-glutamine, without sodium bicarbonate

CATALOG NO. 56941C

Description

TC-100 Medium is less complex than many insect media that were used prior to its development. It contains no insect hemolymph, serum albumin or whole egg ultrafiltrate which were major components of earlier growth media. Tryptose broth and Fetal Bovine Serum (FBS) were found to provide the growth-promoting capabilities of these materials. Sucrose and fructose, along with several Krebs' cycle intermediates, were also eliminated with no loss of cell growth or replication. TC-100 commonly is used for the production of baculovirus in lepidopteran cell lines.

Precautions

Use aseptic technique when handling or supplementing this medium after filtration. This product is for further manufacturing use. THIS PRODUCT IS NOT INTENDED FOR HUMAN OR THERAPEUTIC USE.

Storage

Store dry powder medium at 2 to 8 C. Do not use after the expiration date. Store hydrated medium protected from light at 2 to 8 C.

Indications of Deterioration

Dry powder medium should be free flowing. Do not use if powder is caked. Prepared medium should be clear of particulates and flocculent material. Do not use if liquid medium is cloudy or contains precipitate. Other evidence of deterioration may include color change or degradation of physical or performance characteristics.

Formulation

Component (all components measured in mg/L)	
INORGANIC SALTS	
Calcium chloride anhydrous	996.490
Magnesium chloride anhydrous	1067.950
Magnesium sulfate anhydrous	1357.670
Potassium chloride	2870.000
Sodium chloride	500.000
Sodium phosphate monobasic monohydrate	1159.720
VITAMINS	
Biotin	0.010
D-calcium pantothenate	0.110
Cyanocobalamin	0.010
Folic acid	0.020
Myo-inositol	0.020
Niacin	0.020
PABA	0.020
Pyridoxine HCl	0.020
Riboflavin	0.020
Thiamine HCl	0.520
AMINO ACIDS	
L-alanine	225.000
L-arginine free base	665.110
L-asparagine monohydrate	397.700
L-aspartic acid	350.000
L-cystine 2HCl	28.680
L-glutamic acid anhydrous	600.000
L-glutamine	600.000
Glycine	650.000
L-histidine HCl monohydrate	3697.890
L-isoleucine	50.000
L-leucine	75.000
L-lysine HCl	625.000
L-methionine	50.000
L-phenylalanine	150.000
L-proline	350.000
L-serine	550.000
L-threonine	175.000
L-tryptophan	100.000
L-tyrosine 2Na dihydrate	72.080
L-valine	100.000
OTHER	
Dextrose anhydrous	1100.000
Tryptose	2000.000
ADD: Sodium bicarbonate	350.000
Grams of powder per liter	20.564

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Preparation Instructions

1. Measure 80 - 90% of the final volume of cell culture grade water (Catalog No. 59900C) into an appropriate size mixing vessel. Water temperature should be 15 to 30 C. Do not heat water.
2. Add the dry powder medium to the water. Rinse the original package with a small amount of cell culture grade water to remove all traces of powder and add to the solution. Mix until completely dissolved.
3. For each liter being prepared, add 350.00 mg/L of sodium bicarbonate (Catalog No. 90421C) or 4.7 mL/L of sodium bicarbonate solution 7.5% (Catalog No. 59221C). Mix until completely dissolved.
4. While stirring the solution in Step 3, adjust the pH to 6.2 using KOH 1N. Use of NaOH may cause precipitation.
5. Add cell culture grade water to the solution in Step 4 to bring it to the final volume. Keep the vessel closed until the solution is filtered to avoid fluctuations in pH.
6. The osmolality of this medium should be raised to 360 mOsm by adding approximately 2.8 g/L NaCl.
7. Sterilize the solution using a membrane filter with a pore size of 0.22 µm or less. A peristaltic pump or an inert gas such as nitrogen can be used to provide positive pressure at 3 - 15 psi. Do not use CO₂ gas.
8. Sterile solutions should be dispensed aseptically into sterile containers. Store protected from light at 2 to 8 C.
9. Supplements, such as antibiotics, can be added to the sterilized solution using aseptic technique. Storage conditions and shelf life of the supplemented product may be affected by the nature of the supplements. Sterile serum should not be refiltered before or after being added to sterile medium because growth promoting capacity may be reduced upon refiltration.

NOTE: Dry powder medium is extremely hygroscopic and must be protected from atmospheric moisture. We recommend that the entire contents of each package be used immediately after opening.

Characteristics

Appearance

Off-white free-flowing powder

Bioburden

≤ 100 CFU/100 mL

Endotoxin

≤ 1.0 EU/mL

Osmolality (as supplied)

245 - 285 mOsm/kg H₂O

pH (as supplied)

4.2 - 4.9

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