

## TC-100 – Insect medium (modified Grace's Insect medium)

Cell culture powder medium

Product No. A2017

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### Description

This product is a powder mixture to prepare TC-100 Insect cell culture medium according to Gardiner, G.R. and H. Stockdale (1975) *J. Invert. Pathol.* **25**, 363. It is a serum-free and protein-free medium frequently used to grow SF-9 cells or used for the breeding of viruses.

**with** L-Glutamine

**without** Sodium hydrogen carbonate

hygroscopic

**Storage:** 2-8°C

Most of our powder media are prepared without Sodium hydrogen carbonate to increase their stability. Powdered media and salts are very hygroscopic and have to be stored under dry conditions. Therefore we recommend to dissolving the whole content at once after opening one package.

### General information

Powdered media and salts are very hygroscopic and must be stored under dry conditions. After opening the package the whole contents must be dissolved at once.

Reconstitute the powdered form of media to produce 1X liquid medium, as the different amino acids may precipitate because of their low solubility. They potentially can form salts which are of low solubility in concentrated solutions. If supplements are needed, they can be added before filtration (unsterile) or after filtration (sterile).

Use bidistilled or deionized, pyrogen-free water to reconstitute powder media.

### Procedure - Preparing liquid insect cell culture media:

1.) Add water to the required quantity of powdered medium (use approx. 90 % of the required amount of water so as to adjust the pH later). Flush out any remaining powder from the container. Stir until completely dissolved. The temperature of the water should be between 15-30°C.

2.) When the powder is completely dissolved, add 0.350 g/L Sodium hydrogen carbonate (NaHCO<sub>3</sub>, AppliChem order no. A0384) and dissolve it completely as well.

3.) Adjust to pH value 6.1\* with 1 N HCl or 1 N NaOH while stirring.

**Note:** Final pH value of the medium will be approx. 6.3. At this step, the pH should be approx. 6.1, i.e. 0.2 units lower than the target pH, because the pH will slightly rise during filtration when CO<sub>2</sub> leaks out.

**\*Comment:** The physiological pH optimum of insect cell culture media is more acidic compared to the pH value of mammalian cell culture media. At pH values above approx. 6.5, an undesired precipitation will occur with insect cell culture media which contain a high concentration of Calcium chloride.

4.) After adjusting the pH, add water to the final volume. Mix well and filter immediately.

5.) Store the medium at 2-8°C protected from light.

### Composition

Powder media from AppliChem are mixed and processed according to the original formulations. To produce these media only raw materials of high quality are used. The single raw material that is used in the media production is taken only from one lot, which is dried according to instructions. Shortly, after drying the raw materials, they will be grinded in special mills to get an homogenous fine powder, that is packed immediately. Due to that the customer can easily dissolve our media. You will receive a weighing protocol on request.

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<b>Inorganic salts</b>	[mg/L]	<b>Other components</b>	[mg/L]
Calcium chloride x 2H <sub>2</sub> O	1298.11	D(+)-Glucose anhydr.	1000.00
Potassium chloride	2900.00	Bacto - Tryptose	2600.00
Magnesium chloride x 6H <sub>2</sub> O	2282.59		
Magnesium sulfate dried	1957.14		
Sodium di-hydrogen phosphate x H <sub>2</sub> O	970.00		
<b>Amino acids</b>		<b>Vitamins</b>	
L-Alanine	225.00	p-Amino benzoic acid	0.02
L-Arginine base	550.00	D-(+)-Biotin	0.01
L-Asparagine x H <sub>2</sub> O	391.97	D-Ca-Pantothenate	0.11
L-Aspartic acid	250.00	Folic acid	0.02
L-Cystine	20.00	myo-Inositol	0.02
L-Glutamine	600.00	Nicotinic acid	0.02
L-Glutamic acid anhydr.	600.00	Pyridoxine x HCl	0.02
Glycine	650.00	Riboflavin	0.02
L-Histidine x HCl x H <sub>2</sub> O	3400.00	Thiamine x HCl	0.02
L-Isoleucine	50.00	Vitamin B12	0.01
L-Leucine	75.00		
L-Lysine x HCl	630.00		
L-Methionine	50.00		
L-Phenylalanine	150.00		
L-Proline	350.00		
L-Serine	550.00		
L-Threonine	180.00		
L-Tryptophan	100.00		
L-Tyrosine	55.00		
L-Valine	100.00		
		<b>Total weight: 21.99 g/L</b>	

**Literature:**

Gardiner, G.R. & H. Stockdale (1975) *J. Invert. Pathol.* **25**, 363