

IT SFM 03, TE030

Version 1.2

IT SFM 03 is a serum-free, animal origin-free basal medium that contains hydrolysate, glucose and glutamine. TE030 is a serum-free, animal origin-free feed medium. The combination of IT SFM 03 and TE030 supports *Spodoptera frugiperda* (Sf9, Sf21) and *Trichoplusia ni* (H5) cell growth with high density and protein expression in suspension culture.

Product	Catalog No.	Form	Package Sizes
IT SFM 03	11009-1353	Dry powder	2 L, 10 L, 100 L, Customized
	11009-23027	Liquid	500 mL, 1000 mL
TE030	99156-1329	Dry powder	2 L, 10 L, 100 L, Customized
	99156-23015	Liquid	500 mL, 1000 mL

Safety Warning

Read the Material Safety Data Sheets (MSDS) and follow handling instructions. Wear appropriate protective eyewear, clothing, and gloves.

Intended Use

For research and further manufacturing use only.

Storage and Stability

Powder Medium

The dry powder medium should be stored at 2–8°C and protected from light. The product is stable for 24 months when unopened and stored properly. This product is very hygroscopic and should be kept in a dry environment away from moisture.

Liquid Medium

The liquid medium should be stored at 2–8°C and protected from light. The product is stable for 12 months, when unopened and stored properly. Addition of other supplements may affect storage conditions and shelf life. Do not use the medium that shows evidence of particulate matter or cloudiness.

Note: (1) Please add 3 mM glutamine into the liquid medium that has been stored for 3 months or longer. (2) Pre-warm the liquid medium to 27°C before using.

Prepare Liquid Medium from Dry Powder

IT SFM 03 (11009-1353)

1. Fill the mixing container with purified water (20–30°C) at 90% of the final volume.
2. Slowly add 42.9 g/L of dry powder medium with gentle stirring. Mix for 10 minutes.
3. Adjust the pH to 8.5–9.0 using 5N HCl or 5N NaOH solution. Mix for 30 minutes.
4. Adjust the pH to 6.0–6.2 using 5N HCl. Mix for 10 minutes.

5. Adjust the final volume with purified water. Mix for 10 minutes.
6. Add 1/2000 (mL/mL) of **IT F 01** (99150-22050, shipped with IT SFM 03) sterile solution, Mix for 10 minutes.
7. Filter the media using a membrane filter with 0.22 μm pore size immediately.

TE030 (99156-1329)

1. Fill the mixing container with purified water (20–30°C) at 85% of the final volume.
2. Slowly add 100.0 g/L of dry powder medium with gentle stirring. Mix for 10 minutes at least until the powder is evenly distributed.
3. Adjust the pH to 6.0–6.2 using 5N NaOH solution. Mix for 30 minutes until the powder is dissolved completely.
4. Adjust the final volume with purified water. Mix for 10 minutes. The pH of the solution should be in a range of 6.0–6.2.
5. Filter the media using a membrane filter with 0.22 μm pore size immediately.

Adaptation to IT SFM 03

Because the medium is highly concentrated and insect cells are sensitive, subculture is needed when cells are adapted from other media to IT SFM 03.

1. Culture cells in the medium of 50% original medium + 50% IT SFM 03 for 3 days. When the viability is >95%, and the doubling time isn't significantly different between the new medium and the original medium, transfer the cells into 100% of IT SFM 03.
2. Culture cells in 100% of IT SFM 03 for 3 days. When the viability is >95% and the doubling time isn't significantly different between IT SFM 03 and the original medium, the adaptation is completed. Thereafter, the cells can be cultured in the IT SFM 03 for other applications.

Recommended Process

1. It is recommended that seed at density of 1 or greater than 1×10^6 cells/mL with viability $\geq 95\%$ and culture at 27°C.
2. Keep glucose at least 3 g/L during the culture process.
3. Add 4% culture volume of TE030 when the cell density reaches at 6×10^6 cells/mL for the first time, then supplement 5% culture volume of TE030 every 72 hours. It's also possible to spare the use of feed throughout the expression culture process according to the specific needs of platform.