

SF-4 BACULO EXPRESS INSECT MEDIUM

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SF-4 Baculo Express Serum Free Insect Medium

Extensive development and further investigation on the nutritional needs of insect cells, based on the excellent performance of SF-1, resulted in our improved “ready to use” SF-4 Baculo Express medium. SF-4 Baculo Express medium is a proprietary serum free formulation which has successfully been used to grow various *Spodoptera frugiperda* (SF9, SF21), BTI-TN-5B1-4 (High Five™) and *Drosophila melanogaster* (D.Mel-2) cells. With SF-4 Baculo Express media all cell types can be cultivated: monolayer-, spinner- or shaking cultures, adherent cells and suspension cells. The medium contains all additives necessary for the cultivation of insect cells in the optimal concentration: steroids, amino acids, organic acids, glutamine and glucose. The medium is designed for efficient infection and expression with the Baculovirus system. Already successfully used in different academic and industrial laboratories, SF-4 Baculo Express medium shows the following improvements:

- High Cell Density: Densities up to 2×10^7 cells /ml could be achieved using SF-4 in bioreactors and spinner flasks
- Versatility: Not only suitable for SF9 and SF21 but also High Five™ and *Drosophila* cells
- Fast Adaptation: Only few passages are needed, if you switch from your current serum supplemented medium (e.g. TC-100 or Grace's). Direct switch from your current serum free (but not protein free) medium is possible for some of the commercially available media
- High Protein Yield: Results indicate an increased protein yield (1.5–2.7 times) in recombinant protein production compared to previously used media

Available SF-4 Baculo Express Serum Free Media

Cat. No.	Description	Size	Protein free
9-00F38-I/K	SF-4 Baculo Express ICM “ready to use”	500 ml/1 L	contains yeast extract
9-07S38-I	SF-4 Baculo Express (1.1 × conc.), w/o yeast extract, w/o L-Valine	500 ml	x
9-10S38-I	SF-4 Baculo Express (1.1 × conc.), w/o yeast extract, w/o Methionine	500 ml	x
9-05S38-I	SF-4 Baculo Express (1.1 × conc.), w/o yeast extract, w/o L-Tyrosine	500 ml	x
9-02S38-I	SF-4 Baculo Express (1.1 × conc.), w/o yeast extract, w/o amino acids	500 ml	x

Amino acid depleted SF-4 media (Cat. No: 9-07S38-I, 9-10S38-I, 9-05S38-I and 9-02S38-I) are an efficient reagent for isotope labeling in NMR studies. Other modifications are available upon request at info@bioconcept.ch

References

1. Schlaeger E.J. (1996) Medium Design for insect cell culture; (Cytotechnology) 20 57–70
2. Schlaeger E.J. (1996) The protein hydrolysate, Primatone RL, is a cost-effective multiple growth promotor of mammalian cell culture in serum-containing and serum-free media and displays anti-apoptosis properties; Journal of Immunological Methods 194 191–199
3. Schlaeger E.J., Foggetta, M., Vonach, J.M., Christensen, K. (1993) SF-1, a low cost culture medium for the production of recombinant proteins in baculovirus infected cells Biotechnology Techniques 7 (3) 183–188
4. Schlaeger, E.J., Loetscher, H., Gentz, R. (1992) Fermentation scale up: Production of soluble human TNF receptors. in Workshop on Baculovirus and recombinant protein production processes, Interlaken, Switzerland. Editors: J.M. Vlak, E.-J. Schlaeger, A.R. Bernard
5. Ljunggren, J., Häggström, I. (1992) Glutamine limited fed-batch culture reduces the overflow metabolism of amino acids in myeloma cells. Cytotechnology 8 45–56
6. Law, J.H., Wells, M.A. (1989) Insects as biochemical models. (J.Biol.Chem.) 264 16335–16338
7. Grace, T.D.C. (1962) Establishment of four strains of cells from insect tissue grown in vitro Nature 195 788–789
8. Vaughn, J.L. (1968) A review of the use of insect tissue culture for the study of insect-associated viruses. Top.Microbiol.Immunol. 42 108–128
9. Weiss, S.A., Smith, G.C., Kalter, S.S., Vaughn, J.L. (1981) Improved method for the production of insect cell cultures in large volume. In Vitro 17 495–502
10. Strauss A. et al (2003) Amino-acid-type selective isotope labeling of proteins expressed in Baculovirus-infected insect cells useful for NMR studies Journal of Biomolecular NMR 26 367–372
11. Gosser AD, Hinniger A, Gutmann S, Jahnke W, Strauss A, Fernández C. (2011) A simple protocol for amino acid type selective isotope labeling in insect cells with improved yields and high reproducibility. J Biomol NMR. Dec 51 (4): 449–456
12. Gossert AD, Jahnke W. (2012) Isotope labeling in insect cells. Adv Exp Med Biol. 992:179–196
13. Sitarska A, Skora L, Klopp J, Roest S, Fernández C, Shrestha B, Gossert AD. (2015) Affordable uniform isotope labeling with 2H, 13C and 15N in insect cells. Journal of Biomolecular NMR 62, Issue 2, 191–197
14. Opitz C, Isogai S, Grzesiek S. (2015) An economic approach to efficient isotope labeling in insect cells using homemade 15N-, 13C- and 2H-labeled yeast extracts. Journal of Biomolecular NMR June 2015
15. Isogai S. et al. (2016) Backbone NMR reveals allosteric signal transduction networks in the beta1-adrenergic receptor. Nature 530, 237–241