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IS 293™ Medium without L-glutamine

IS 293™ Medium (without L-glutamine) is a serum-free medium for suspension culture of human embryonic kidney (HEK 293) cells.

Advances in human gene therapy have created great promise in the battle against genetic diseases, as well as cancer, cardiovascular disease and AIDS. Among the viral vectors used, adenovirus plays a prominent role in this new technology.

Irvine Scientific has developed IS 293 without L-glutamine, a serum-free medium formulated specifically for the suspension growth of HEK 293 cells, a commonly used packaging cell line for adenovirus expression and recombinant protein production. This serum-free formulation supports long term, high density cell growth along with high levels of adenovirus or recombinant protein production. Figure 1 illustrates that IS 293 can support high density growth of HEK 293 cells in suspension culture with viable density exceeding $3x10^6$ cells/mL by day six, while Figure 2 shows continuous growth of HEK 293 cells for multiple passages over a three month period.

IS 293 medium contains 10 mg/L of total protein (human transferrin and recombinant human insulin) and has been optimized to limit cell aggregation in suspension cultures. IS 293 is formulated without L-glutamine and requires supplementation with 8 mM of L-glutamine and should be additionally supplemented with 0.1% Pluronic® F-68 for suspension cultures.

IS 293 is intended for use in the manufacture of adenovirus (or other vectors) and recombinant proteins and is designed for use in 5% CO_2.

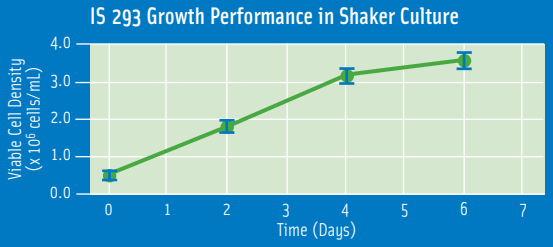

Figure 1. Growth of serum-free adapted HEK 293 cells in IS 293. Serum-free adapted HEK 293 cells were seeded in IS 293 medium at a starting inoculation of $5x10^5$ cells/mL (30 mL medium in a 125 mL shaker flask). Viable cell density was determined over six days.

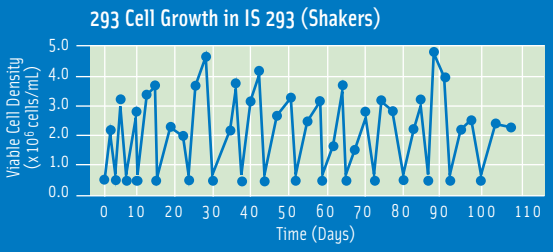

Figure 2. Continuous growth of HEK 293 cells in IS 293 Serum-Free Medium. Adapted HEK 293 cells were grown in shaker suspension culture in IS 293 medium for several passages over a three month period.

Features and Benefits

- When supplemented with L-glutamine, IS 293 promotes high density, long-term growth of HEK 293 cells and expression of adenoviral vectors.
- Certificate of Analysis available for each lot.
- IS 293 has a shelf life of one (1) year when stored at 2-8°C and protected from light.
- Available in packages of 500 mL and 1 L.
- Custom packaging and powder configurations are available.

Catalog Number 91101: IS 293 Medium without L-glutamine

Adaptation to Serum-Free Culture

HEK 293 cells currently adapted to serum-free medium can be subcultured directly into supplemented IS 293 with minimal adaptation, though a higher initial density should be used. The cells should be in mid-logarithmic growth phase with high (> 90%) viability. Adaptation of HEK 293 cells to serum-free culture conditions may require either direct or sequential adaptation depending upon cell type and culture conditions. See product insert for adaptation instructions.

Cryopreservation

Serum-free HEK 293 cells may be frozen in 93% supplemented IS 293 (a 50:50 [v/v] mixture of fresh and conditioned IS 293) and 7% DMSO at 0.5-1.0 x 10^7 cells/mL, using standard cryopreservation techniques. See product insert for instructions.

Partnering

This medium has been optimized for the specific cells we have used. Your cells and application may differ to varying degrees. This medium may be tailored to meet the specific requirements of individual customers. Whether your efforts are focused on optimizing yields, improving product quality or addressing regulatory concerns, Irvine Scientific has the answers to your specific requirements.

For more information on all of our Industrial Cell Culture products, call 1 800 437 5706 and request that your Territory Manager contact you. Visit our website at www.irvinesci.com or e-mail us at nucleus@irvinesci.com.

Note: Always refer to product insert for complete instructions for use.

Irvine Scientific
2511 Daimler Street, Santa Ana, CA 92705
Customer Service: 1 800 577 6097 • Technical Service: 1 800 437 5706
• Telephone: 1 949 261 7800 • Fax: 1 949 261 6522

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