

Product Information

HEK|ONE Feed

Chemically Defined Feeding Supplement, w/o L-Glutamine, sterile-filtered

Cat. No. HEKF-1000ML

General Information

HEK|ONE Feed is a chemically defined, animal component-free feeding supplement for stable and transient cells. It was developed for the use as feeding solution in combination with HEK|ONE S in recombinant protein production as well as HEK|ONE T for transient gene expression. The feeding supplement contains highly concentrated nutrients to increase the productivity of HEK293 and other human cells but no lipids, hydrolysates, or growth factors. HEK|ONE Feed supports superior production of recombinant proteins and antibodies in suspension culture by maintaining and extending the production capability of HEK cultures. Consumed substances like vitamins and amino acids are replenished to increase the protein yield by process extension. It is suitable for research and further manufacturing.

Product Specifications

Appearance	Clear yellow orange solution
Glucose Concentration	40.0 g/L (plus additional carbon source)
Glutamine	No L-glutamine
Storage and Shelf Life	+2°C to +8°C; protected from light. Please refer to the label for expiry date.
Shipping Conditions	Ambient
Specifications	<ul style="list-style-type: none"> - Chemically defined - Serum-free - Animal derived component-free - Protein-free

Instructions for Use

Culture Conditions

HEK|ONE S contains 40 g/L D-glucose plus one additional sugar source and is formulated without L-glutamine. For applications requiring this amino acid, we recommend supplementation of L-glutamine prior to use. L-glutamine can be added during feed preparation or from stock solution directly into the fed-batch cultivation. For higher D-glucose concentrations, D-glucose can be added as well, either during feed preparation or from stock solutions directly into the fed-batch cultivation. Cultures should be maintained at +37 °C. For cultivation in an incubator, a 5 % CO₂ atmosphere is necessary.

Temperature	37°C
CO ₂	5 %
Shaker diameter	5 cm
Shaker speed	125 – 185 rpm

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Instructions for fed-batch processes

1. Start the cultivation in batch mode, use one of HEK|ONE media (S or T) as basal medium plus additional L-glutamine as usual.
2. Daily add HEK|ONE Feed including a sufficient amount of D-glucose and L-glutamine or apply additional D-glucose and L-glutamine supplementation to maintain D-glucose levels of 2 – 3 g/L and L-glutamine concentrations of 1 – 3 mM during fed-batch. An exemplary feeding regime for low- and high-consuming cells is shown below. Example of feeding regime in a fed-batch process with low-or high-consuming cells using HEK|ONE basis medium supplemented with 8 mM L-glutamine in 50 ml working volume shaker cultivation:

Time (days)	Low-consuming cells	High-consuming cells
0	0.0 ml	0.0 ml
1	0.0 ml	0.0 ml
2	1.5 ml	1.5 ml
3	2.0 ml	3.0 ml
4	3.0 ml	5.0 ml
5	5.0 ml	5.0 ml
6-end	5.0 ml	6.0 ml

3. Adjust the feeding regime according to the demand of the cell line. Increase feeding with higher growth and cell density or when nutrient limitations occur. Decrease feeding if cells show poor growth, if the pH value is decreasing dramatically, or if the amount of D-glucose is increasing.

Bioreactor cultivation

For best performance, the inoculation density in bioreactor should be in the range of $3 - 5 \times 10^5$ cells/mL in HEK|ONE medium. Suggested starting parameters for bioreactor cultivations of HEK cells are pH 7.0 – 7.2, 40 % DO, and a temperature of +37 °C. The cultivation in bioreactor under controlled pH conditions might lead to differences in cellular demands. Carefully check growth and D-glucose consumption every day. Adjust feeding to higher cell densities by carefully supplementing more HEK|ONE Feed and/or D-glucose and/or L-glutamine in culture in exponential and stationary cultivation phase. Note: Adjustments of cultivation parameters (e.g. pH, pH deadband or temperature) based on your experience and common published values may further improve process performance.

Precautions and Disclaimer

This product is for research use and further manufacturing only.

Help Needed?

If you have any further questions regarding this product, please do not hesitate to contact our cell culture experts by email (techservice@capricorn-scientific.com) or phone (+49 6424 944640).