

## Product Information

### HEKventure Feed A

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

Cat. No. HEKVFA-100ML

### HEKventure Feed B

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

Cat. No. HEKVFB-50ML

## General Information

HEKventure Feed A and Feed B are chemically defined, animal component-free feeding supplements for stable HEK293 cells. Combined with HEKventure S Medium they are used to produce recombinant proteins or viruses in a fed-batch process. The feeding supplements are rich in concentrated nutrients, helping to boost the productivity of HEK293 in suspension. HEKventure Feeds enhance the production of recombinant proteins by maintaining and prolonging the cells' production capacity. It replenishes essential nutrients like vitamins and amino acids, helping to increase protein yield through process extension.

## Product Specifications

Appearance	HEKventure Feed A: Clear, brown to orange solution HEKventure Feed B: Clear, light yellow solution
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"> <li>- Chemically defined</li> <li>- Serum-free</li> <li>- Animal derived component-free</li> </ul>

## Instructions for Use

### Culture Conditions

HEKventure Feeds are 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 +36.5°C. For cultivation in an incubator, a 7 % CO<sub>2</sub> atmosphere is necessary.

Temperature	36.5°C
CO <sub>2</sub>	7 %
Culture vessel	Shake flask
Shaking rate	155 rpm

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### Instructions for fed-batch processes

1. Growth medium	HEKventure S supplemented with 0.25 mg/L insulin
2. Production medium	HEKventure S without insulin
3. Feeding Supplement	HEKventure Feed A HEKventure Feed B

1. Start the cultivation in batch mode, using HEKventure S as growth medium plus additional L-Glutamine (0.4 g/L) and insulin (0.25 mg/L)
2. When starting the production phase, no supplementation with insulin is required anymore.
3. Starting at the second day of production phase, daily add feeding supplements according to the table below. Feed volume is a percentage [%] of initial culture volume at day 0. For example, 2 % feeding volume for a 50 ml culture corresponds to 1 ml Feeding supplement.

Culture days	0	1	2	3	4	5	6	7	8	9	10	11
HEKventure Feed A to add [% in v/v]			1	2	2	2	2	2	2	2	2	2
HEKventure Feed B to add [% in v/v]			0.2	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4

4. 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 significantly, 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 HEKventure S medium. Suggested starting parameters for bioreactor cultivations of HEK cells are pH 7.0 – 7.2, 40 % dissolved oxygen (DO), and a temperature of +36.5 °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 HEKventure Feeds 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.

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## Help Needed?

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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](mailto:techservice@capricorn-scientific.com)) or phone (+49 6424 944640).