ActiPro medium

HYCLONE MEDIA AND SUPPLEMENTS

HyClone™ ActiPRO™ cell culture medium has been formulated to provide high yields of recombinant proteins in processes using Chinese hamster ovary (CHO) cell lines (Fig 1). The medium is chemically defined, animal-derived component- free (ADCF), and optimized for high-yield protein production in batch or fed-batch processes. ActiPro medium does not contain any growth factors (such as insulin), peptides, hydrolysates, phenol red, or 2-mercaptoethanol, ensuring batch-to-batch consistency and increased cell culture process efficiency.

ActiPro medium is intended for use in combination with HyClone ActiSM™ medium and Cell Boost™ 7a and Cell Boost 7b supplements as part of the ActiPro system of media and supplements designed with adaptation and production in mind. The ActiPro system is suitable for general biomanufacturing with CHO cell lines such as CHO-GS, CHO-K1, CHO-DG44, and CHO-S.

Fig 1. ActiPro medium is designed for high yields of recombinant proteins in CHO cell culture processes.

Key features of ActiPro medium:

- Demonstrated high yields of recombinant proteins (e.g., MAbs > 5 g/L)
- Does not contain hypoxanthine and thymidine
- Chemically defined ADCF formulation
- Production medium for batch or fed-batch processes
- Accompanied with detailed protocols for use to maximize output

Specifications

ActiPro is a rich, chemically defined, and protein-free medium that does not contain hypoxanthine or thymidine. The medium has been formulated for use in high-yield batch or fed-batch processes.

Shelf-life

Please refer to the label for the expiry date of your ActiPro medium.

Storage

ActiPro powder medium should be stored in a dry environment, protected from light at 2°C to 8°C. Reconstituted ActiPro medium should be protected from light and stored at 2°C to 8°C.

General culture recommendations

1. Cultures should be incubated at 37°C in a 7.5% CO_2 environment.
2. Maintain adapted cells by establishing a mid-logarithmic growth phase subculturing schedule.
3. Suggested seeding density of cultures 3.0 ×10^5 cells/mL; viability should be > 90%.

Process conditions

ActiPro medium is recommended for use in a CO_2 atmosphere. Equilibration of ActiPro medium in 7.5% CO_2 will result in a starting pH of 7.15 ± 0.05. During the cultivation, pH control can be managed by varying the CO_2 concentration or by addition of base such as $NaHCO_3$ or NaOH. The culture temperature should be adjusted according to the requirements of the specific clone or target product. ActiPro medium has demonstrated excellent results both under constant temperature conditions and in biphasic processes comprising a shift to a lower temperature.

Cryopreservation

Adapted cells can be cryopreserved in ActiPro medium supplemented with 5% to 10% DMSO. We recommend freezing the cells at a minimum cell density of 1 × 10^7 cells/mL.

Custom production

Formulations and delivery systems can be customized to your specific process requirements or optimized to maximize process yields.

Rapid Response Production (RRP)

Our RRP program manufactures up to 200 L of your custom prototype formulation within seven working days of your request. Use our RRP service to expedite the development and testing of custom media for your biopharmaceutical manufacturing process.

Related products

Product specifications for ActiPro medium and related products are listed in Table 1.

Table 1. Product specifications for ActiPro medium and related products

Specification	ActiSM	ActiPro	Cell Boost 7a	Cell Boost 7b
L-glutamine	-	-	-	-
Glucose	Y	Y	Y	-
Phenol red	-	-	-	-
Proteins	-	-	-	-
Hydrolysates	-	-	-	-
2-mercaptoethanol	-	-	-	-
Poloxamer 188	Y	Y	Y	-

ActiSM medium

ActiSM is a lean, chemically defined ADCF medium that does not contain glycine, hypoxanthine, or thymidine. This medium was developed to be used as the first step in adapting cells to the ActiPro system of media and supplements. Once cells have undergone the adaptation process, we recommend using ActiPro medium for production.

Cell Boost supplements

Cell Boost 7a and Cell Boost 7b are highly concentrated, chemically defined ADCF supplements that help increase cell culture performance and product yield. Cell Boost 7a and 7b are intended for use together in defined concentrations.

The supplements should be added to the cultivation vessel as individual solutions and should not be mixed in advance as this will cause precipitation. The recommended ratio of Cell Boost 7a to 7b is 10 to 1 (v/v). The total amount of feed added and the specific feeding regime will need to be adjusted according to the nutritional requirements of each specific clone.

Cell Boost 7a

Cell Boost 7a has a pH close to neutral and contains amino acids, vitamins, salts, trace elements, and glucose.

Cell Boost 7b

Cell Boost 7b has an alkaline pH and is a concentrated solution of amino acids.

Technical support

Our cell culture medium specialists and technical support functions are happy to discuss your needs in getting the most out of your culture. In addition, we have an extensive service offering to help with, for example, process development, optimization, and scale-up. Please contact your local sales representative to learn more about the services we offer.

To find a certificate or a MSDS for a specific product, please visit cytiva.com/certificates.

Ordering information

Product	Quantity	Product code
HyClone ActiPro powder medium	5 L*	SH31037.01
	10 L†	SH31037.02
	25 L†	SH31037.05
HyClone ActiPro liquid medium	500 mL*	SH31039.01
	1000 mL*	SH31039.02
	1 L†	SH31039.03

Related products	Quantity	Product code
HyClone ActiSM powder medium	5 L*	SH31038.01
	10 L†	SH31038.02
	25 L†	SH31038.05
HyClone ActiSM liquid medium	500 mL*	SH31040.01
	1000 mL*	SH31040.02
	1 L†	SH31040.03
HyClone Cell Boost 7a powder supplement	1 L†	SH31026.07
	5 L*	SH31026.01
	10 L†	SH31026.02
	25 L†	SH31026.03
HyClone Cell Boost 7b powder supplement	0.5 L*	SH31027.01
	1 L†	SH31027.07
	5 L†	SH31027.02
	10 L†	SH31027.04
L-glutamine 200 mM	100 mL*	SH30034.01
	500 mL*	SH30034.02
	500 g†	SH30336.03

Note: powder product quantity is shown as the final volume of after powder reconstitution.
* Stock items.
† Item is made to order. Lead times and minimum order quantities apply.

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