cQrex® KC

Our next-generation cystine peptide to optimize biopharma cell culture

cQrex®

EVONIK
Leading Beyond Chemistry

Chemically defined peptides for intensified bioprocesses

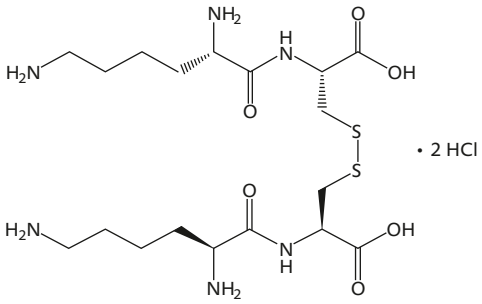
Efficient cell culture processes are the cornerstone of biological drug production. Evonik's cQrex® portfolio of chemically defined and highly pure peptides helps to formulate more concentrated and stable media, simplify the cell culture process, and increase productivity.

cQrex® KC is a highly soluble peptide designed to address the challenge of L-cystine supply in cell culture. It allows the formulation of concentrated and pH-neutral basal, feed and perfusion media, therefore intensifying and simplifying complex production processes. By increasing the cell proliferation, viability and cell-specific productivity, cQrex® KC also contributes to higher antibody titers and increased overall productivity of biological drugs.

Optimize your cell culture media with high concentrations of L-cystine

cQrex® KC is a precursor of the key amino acids L-cystine and L-lysine. The latter boosts solubility and is preferred over an alanine-based molecule when working with cells that are sensitive to L-alanine accumulation.

cQrex® KC (N,N'-di-L-Lysyl-L-Cystine dihydrochloride)



- Highly pure and chemically defined
- Efficiently metabolized by cells
- Non-animal derived
- Manufactured in-house in Europe

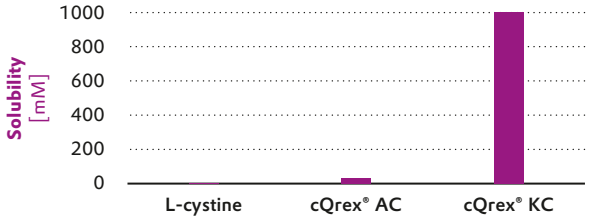
Want to discover more?

Get in touch with our experts:
cQrex@evonik.com

Overcome solubility limitations with cQrex® KC

- Solubility is around **1000 times higher than L-cystine** in pH-neutral media
- Rapid dissolution
- Increased flexibility in media formulation and bioprocess design

Max. solubility at neutral pH in water

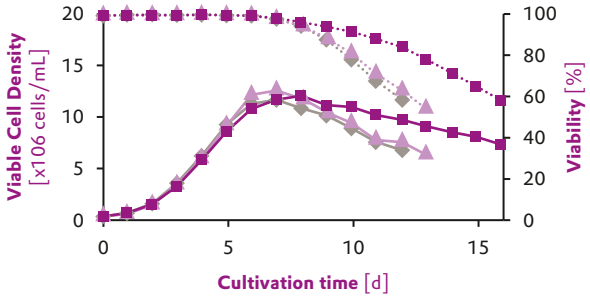


Maximize your bioreactor productivity with cQrex® KC

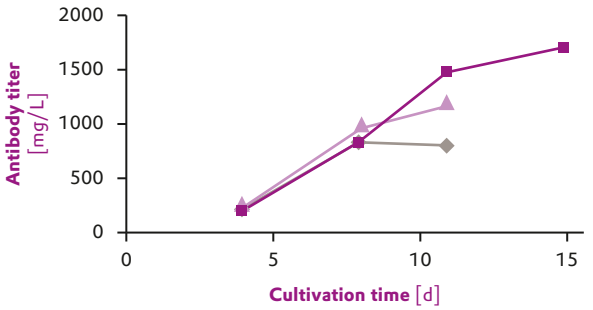
Fed-batch cultivation of a CHO-GS cell line expressing a monoclonal antibody in bioreactors:

- Equimolar amounts of L-cystine and cQrex® KC
- Adjusted L-lysine concentration

cQrex® KC supplementation in the feed has a positive impact on cell proliferation: it leads to a **prolonged high cell viability**.



The longer cultivation time combined with a high cell-specific productivity enables a **strong increase in the antibody titer** when cQrex® KC is added to the feed or to the basal medium.



Cell specific productivity at d11	q_P [pg/(c*d)]
L-cystine in feed	10.4
cQrex® KC in feed	18.2
cQrex® KC in basal medium	14.6

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Evonik Operations GmbH
Health Care Business Line

cQrex@evonik.com
www.evonik.com/cellculture