MicroRNAs IN CHO CELL CULTURE TECHNOLOGY - small RNAs with big future in mammalian cell engineering
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Chinese hamster ovary (CHO) cells are the predominant cell factory for the industrial production of recombinant therapeutic proteins. The main impact of the now published genome, transcriptome and miRNome of CHO cells is that it enables researchers to begin to understand and control the molecular mechanisms of how these cells perform their tasks of efficient growth, high productivity and safe product quality. The focus of this presentation is how this information has improved our ability to use microRNAs in CHO cell culture technology by i) cataloging CHO microRNA sequences using next-generation sequencing, ii) microarray profiling of microRNA transcription in CHO cell lines of defined phenotypes, and iii) targeted engineering of microRNA expression.