

CHOmics

Form natural production cells toward synthetic CHO-plasma hybrids for biopharma production

Institut for Applied Biotechnology (IAB)

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Project description Recombinant monoclonal antibodies are highly effective drugs for indications as tumor or autoimmune diseases. Chinese hamster ovary (CHO) cells are the main production hosts in the pharmaceutical industry. However, these cells are not naturally equipped for high level antibody production. Nature has developed specialized antibody production cells during millions of years of evolution: the plasma cells of our immune system. CHOmics is a cooperation project between academic and industrial partners to exploit the natural blueprint for optimized bioproduction. Using a systematic approach, molecular and cellular properties of CHO and plasma cells are explored using OMICs technologies. Synthetic biology involving *state-of-the-art* technology as CRISPR/Cas9 will finally be used to create designer cell lines combining the highly evolved production and secretion characteristics of plasma cells with sophisticated fermentations properties of CHO cell lines.

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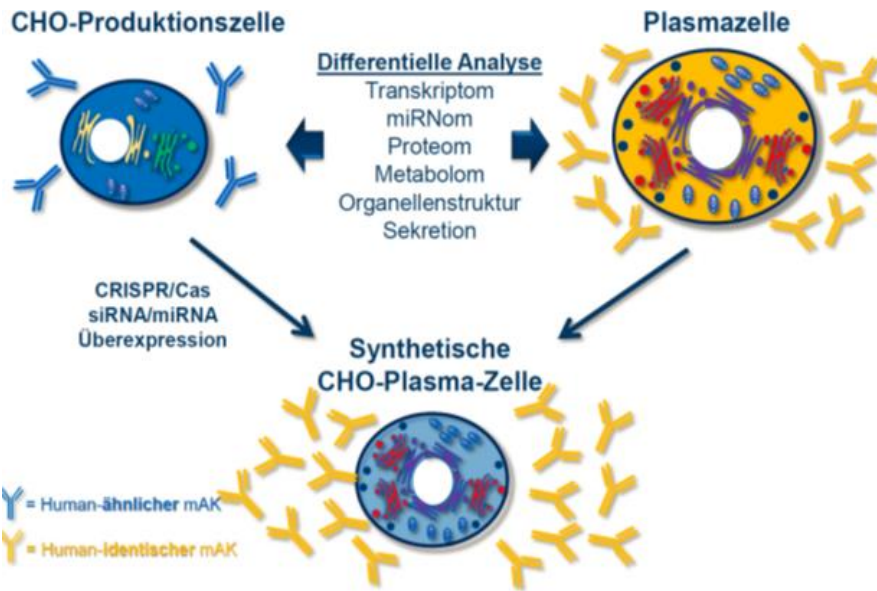
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