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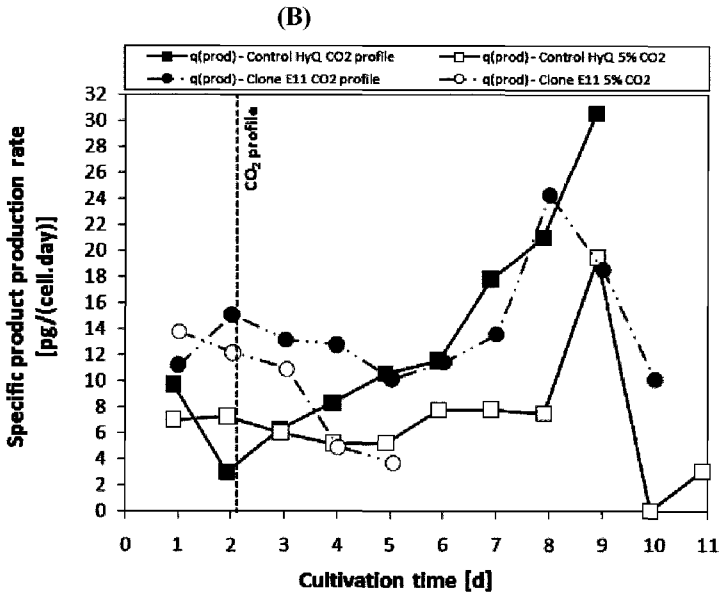
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(54) Title: CO_2 PROFILE CULTIVATION



(57) Abstract: A dissolved CO_2 change in aqueous solutions affects directly the intracellular pH (pHi) value as it does so by influencing therefore important cellular processes. The enzyme carbonic anhydrase II (CAII) catalyzes the equilibrium of CO_2 in aqueous solutions and because it alters the speed at which this equilibrium is reached it was identified as a strong candidate for metabolic engineering. The cell line stably expressing hCAII presented a better initial re-alkalinization of cytoplasm after induced CO_2 acid load. The most alkaline pHi value associated to the lowest pHi variations was observed for that cell line in long term increased CO^2 levels. In general, the increased CO^2 profile triggered the quicker progress of G0G1-cell cycle phase for both transfected and control cell lines.

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