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inhibition was detected in presence of G, P and C at 100 mg/L, showed a reduction of 22.0, 18.0 and 21.5 % in μ_{max}, respectively. In these conditions, a reduction in A was determined (1.24, 1.16 and 1,22 for G, P and F, respectively). *P. pentosaceus* 12p show a maximum growth inhibition in presence of B and F in 100 mg/L, with a reduction about 80 % in 0.84 and 0.71μ_{max} and A of, respectively. The combination F-G produces growth inhibition of all *L. hilgardii* strains assayed. A reduction in μ_{max} of 51.1, 90.0 and 72.32 %; with A of 1.15, 0.93 and 1.15 were determined for the strains 5w, 6F and X1B of *L. hilgardii*, respectively. The inhibitory effect of phenolic compounds on spoilage wine bacteria depending of phenolic compound, the concentration and microorganism. The combined use of phenolic compounds increase the inhibitory effect on bacteria assayed (Synergism). These results could have value as an alternative to reduce or replace the use of SO_2 in the winemaking process.

Código de Resumen: BF-028

Sección: Biotecnología y Fermentaciones

Modalidad: Poster

SCREENING AND CONFORMATIONAL ENGINEERING OF BACTERIAL LIPASES FOR USING IN BIOCATALYSIS

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Lipases (triacylglycerol acylhydrolase; EC3.1.1.3) can catalyze a broad range of chemical reactions, many of which are of industrial interest, due to their applications in organic synthesis.These enzymes are widely used in biocatalysis for the hydrolysis and synthesis of several chiral esters in the presence or absence of organic solvents. Specifically, Candida rugosa lipase(CRL)is one of the most used for their enatioselective biosynthesis capacity.

Conformational engineering is based on the fact that the use of different immobilization techniques, which involve different orientations and / or stiffness levels, may produce an alteration of the active site thereby causing a change in the catalytic properties, particularly in selectivity.

In this work, a screening of 30 different strains was carried out using colorimetric substrates with different chain length, being *Pseudomonas, Aeromonas and Serratia*, wich showed the best activity for p-nitrophenol-acetate, -octanoate and -palmitate, respectively. Selected extracts were stabilized by different immobilization techniques using materials based on cellulose, agarose or modified silica, being EC-EP sepabeads (epoxide activated) the best support.

Several parameters as pH, temperature, time of immobilization and enzymatic loading were optimized for immobilized biocatalysts.

Besides, we have been able to stabilize CRL in DEAE with yields of 80%. These derivatives were stable for more than 6 months at4 °Cand their selectivity was modified when selective deacetylation for nucleosides was evaluated. Deacetylation of thymidine 3'-OH was 81% when this derivative was assayed.

Código de Resumen: BF-029

Sección: Biotecnología y Fermentaciones

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HYDROLYTIC ACTIVITY OF MICROBIAL LIPASE AGGREGATES INDUCED BY HEAT TREATMENT

Belen M Abdulhamid[1], Luciana Costas[1], Mario D Baigori[1 2], Licia M Pera[1].

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Lipases (EC 3.1.1.3) are enzymes characterized by the ability to catalyze the hydrolysis of triglycerides at the interface between the insoluble substrate and water. Currently, lipases are a popular choice as a biocatalyst because they can be applied to chemo-, regio- and enantioselective hydrolyses and also in the syntheses of a broad range of compounds. These enzymes are considered to have great potential in numerous industrial processes, such as the synthesis of food ingredients, their use as additives to detergents and to obtain enantiopure drugs and other refined products. In addition, enzyme aggregates have

inhibition was detected in presence of G, P and C at 100 mg/L, showed a reduction of 22.0, 18.0 and 21.5 % in μ_{max}, respectively. In these conditions, a reduction in A was determined (1.24, 1.16 and 1,22 for G, P and F, respectively). *P. pentosaceus* 12p show a maximum growth inhibition in presence of B and F in 100 mg/L, with a reduction about 80 % in 0.84 and 0.71μ_{max} and A of, respectively. The combination F-G produces growth inhibition of all *L. hilgardii* strains assayed. A reduction in μ_{max} of 51.1, 90.0 and 72.32 %; with A of 1.15, 0.93 and 1.15 were determined for the strains 5w, 6F and X1B of *L. hilgardii*, respectively. The inhibitory effect of phenolic compounds on spoilage wine bacteria depending of phenolic compound, the concentration and microorganism. The combined use of phenolic compounds increase the inhibitory effect on bacteria assayed (Synergism). These results could have value as an alternative to reduce or replace the use of SO_2 in the winemaking process.

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