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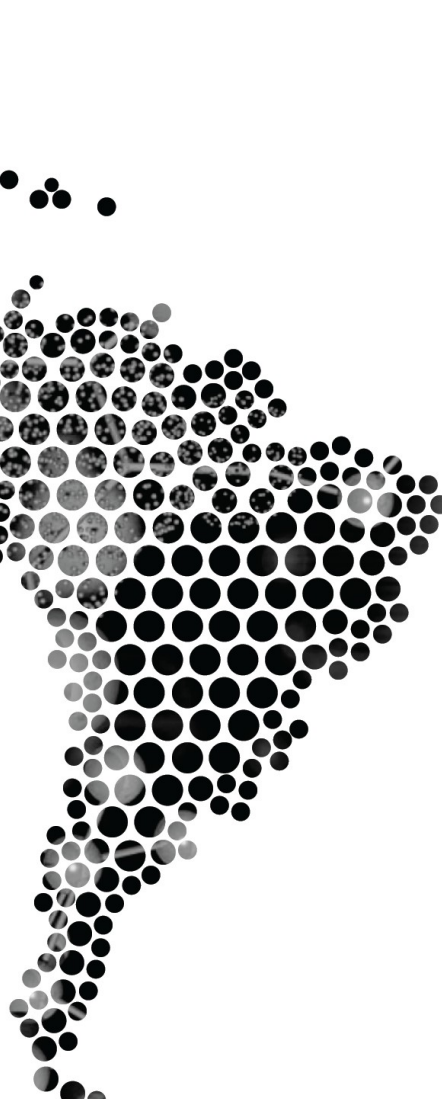
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Centrifugal Partition Chromatography (CPC) for the isolation of anti-*Helicobacter pylori* compounds from natural sources

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Helicobacter pylori (*Hp*) infect near the half of the world population being the etiologic agent of several pathologies like duodenal ulcer, gastritis, gastric cancer and MALT lymphoma. Although there is a specific treatment for this infection, strains displaying antibiotic resistance are increasing. Therefore, the search of new non-antibiotic substances with anti-*Hp* activity is considered an important task. In this line, a number of different natural products have been screened. One of main concerns to evaluate such activity is achieving sufficient amounts of product for biological assays (milligram to grams scale). In order to isolate anti-*Hp* compounds, in a recent project (Fondecyt N°11110442) we use a combination of Centrifugal Partition Chromatography (CPC) and semipreparative HPLC using RP monolithic and Diol-phase columns. CPC belongs to counter-current chromatography techniques with sound advantages over other CCC. So, CPC allows high-load injections (4-10 g) and flow rates (4-12 ml/min) with rotation speeds between 1000-2500 rpm. Moreover, in order to speed-up separations, elution-extrusion and dual-mode operation could be easily done. In our study we isolate several polyphenols from different complex sources like procyanidin-rich extracts from apple peels and *Peumus boldus*, and phenolics from Chilean Propolis and *Gunnera tinctoria*. Solvents were selected using logP of target compounds from Arizona system table (heptane-ethyl acetate-methanol-water). Separations were performed in ascending mode. Further purification of the main phenolic compounds was achieved using monolithic RP-HPLC and diol-phase columns according with the polarity of CPC-fractions. Several flavan-3-ol derived procyanidins (catechin, epicatechin, B2, C1), anthocyanidins and phenolics like CAPE, (caffeic acid phenylethyl-ester) and galangin were purified and identified by HPLC-ESI-MS/MS. Anti-*Hp* activities were assessed by agar well-diffusion, adherence to AGS cells and inhibition of *Hp* urease. CPC is a powerful tool that allow us to separate valuable active compounds from different natural sources in amounts compatible with several biological assays.

Palabras clave: CPC, Polyphenols, *Helicobacter pylori*