

Title (en)

METHOD TO DETECT AND ANALYZE TIGHT-BINDING LIGANDS IN COMPLEX BIOLOGICAL SAMPLES

Title (de)

VERFAHREN ZUR FESTSTELLUNG UND ANALYSE VON STARK BINDENDEN LIGANDEN IN KOMPLEXEN BIOLOGISCHEN PROBEN

Title (fr)

PROCEDE DE DETECTION ET D'ANALYSE DE LIGANDS A FORTE FIXATION DANS DES ECHANTILLONS BIOLOGIQUES COMPLEXES

Publication

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Application

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Abstract (en)

[origin: WO0003240A1] The invention combines a capillary electrophoresis (CE) technique for screening complex biological samples with mass spectrometry (MS), to provide a streamlined procedure for identifying and characterizing candidate ligands in a complex biological sample that bind at a selected binding strength to a selected target molecule. The method of the invention advantageously identifies and characterizes tight-binding ligands when high concentrations of weak ligands are present in the sample, which may mask lower concentrations of tight-binding ligands in the sample. The method involves interfacing a capillary from a CE instrument with a post-capillary mass spectrometer to provide direct mass analysis of target/ligand complexes that migrate stably through the CE instrument. All weaker-binding ligands will not be detected during the MS analysis because they dissociate from the target early during the CE run, before reaching and entering the mass spectrometer. Therefore, this method can identify and structurally characterize moderate-to-tight-binding ligands in complex biological samples, even in the presence of high concentrations of weak-binding ligands.

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