Supported Ionic Liquid materials based on silica purification of L-Asparaginase

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L-Asparaginase (LA) is an antileukemic biopharmaceutical enzyme of current high-cost (1). Therefore, it is crucial to optimize the production and purification of LA, in order to allow their routinely use by a widespread population. Continuous progresses have been made for the development of recombinant therapeutic enzymes. Supported IL materials (SILs) based on silica or polymers are already reported in the literature and have been mainly used in the separation of natural compounds from vegetable biomass (2). Among these, SILs based on silica are of low cost and display a high surface area and high thermal stability (3). Although SILs represent a class of materials with high potential in the purification of proteins, this particular application has been scarcely considered (4). We intend to find ligands/ILs (ionic liquids) able to establish (non-covalent) specific interactions with LA, allowing therefore its purification from the fermentation broth in which it is produced, becoming an alternative for a single step immobilization/purification of LA.


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