

Reference Number: 025418/0051

Title of the Invention

MODIFIED CHITOSAN MEMBRANE PRODUCTION METHOD FOR USAGE OF PROTEIN PURIFICATION

Invention

By the help of this invention; taking the pure chitosan membrane into the pH-adjusted aqueous solution with the addition of base, adjusting the solution temperature, dissolving it by adding ammonium persulfate into the solution, starting the reaction by adding hydroxyl acrylamide into the solution, removing the modified chitosan membrane from the environment at the end of the reaction and cleaning it from impurities by washing with alcohol , washing the modified chitosan membrane with distilled water and keeping it in water until the next use; relates to a method for the production of modified chitosan membranes with increased protein binding efficiency.

Advantages

While the binding efficiency of hydroxyethyl acrylamide increases during the modification process, at the same time the protein holding capacity of the chitosan membrane also increases. In other words, the protein binding efficiency of the modification carried out within the scope of the method of the invention increases (up to 99%). In addition, since the membrane is washable after the binding of the protein, its structural integrity is not impaired, and thanks to its multiple use, the cost is reduced and the environment is protected.

Thanks to the high hydraulic permeability of the membrane produced by the method that is the subject of the invention, filtration is completed in a short time and thus the process is economical. The modified chitosan membranes obtained by this method and used for protein purification allow operation in the pH:4.5-12 range. Since the protein does not undergo any structural deterioration after binding to the membrane, it can be used repeatedly.

Current Status

TURKEY: Registered

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Keywords

Membrane for protein purification, cheap and efficient membrane production, modified chitosan membrane, protein binding, protein purification, membrane, filtration

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