

Feasibility of biofishing using magnetic particles

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Many biotechnology companies are looking for new ways to make their manufacturing processes more cost effective and for many processes the key to achieving this may lie in streamlining product recovery and purification steps. One approach receiving considerable attention is to selectively capture soluble target products directly from unclarified bioprocess feedstocks thereby fusing three classical steps – clarification, concentration, and initial purification – into a single unit operation. One of these methods is a using magnetic particles. Magnetic particles based separations are fast, gentle, and compatible with complex biological suspensions. We used magnetic particles functionalized with carboxyl groups. Antibody was covalently immobilized on the magnetic particles by carbodiimide chemistry. With these particles, target protein was picked up in solution mixed other proteins. After target protein was binding with antibody on magnetic particles, target protein was eluted by various solution. We describe initial results on their use for the purification of protein.