Immobilization of crude Porcine Pancreas Lipase on surfactant-binding nano-sized magnetite(NSM)

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In this study, surfactant-binding nano-sized magnetite particles(S-NSM) has been used as a support of immobilization of porcine pancreas Lipase. We selected SDS(Sodium Dodecyl Sulfate) as a modifier to make a hydrophobic surface. Because S-NSM particles have a unique size of 7~10nm, they are superparamagnetic. Here, we report the enzymatic activity of porcine pancreas Lipase immobilized on S-NSM particles.

Porcine pancreas Lipase which was immobilized on SDS-NSM had higher enzymatic activity than that of crude porcine pancreas Lipase. And none-binding NSM had lower enzymatic activity than that of crude porcine pancreas Lipase. In addition, magnetic separation was performed for reuse of the immobilized porcine pancreas Lipase after enzymatic reaction. From these results, with superparamagnetization, it can be concluded that S-NSM is a good support for immobilization of lipase.