

Production of alpha-ketoglutarate by monolith reactor

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The control of alpha-ketoglutarate complex is very important to its metabolic role, which is controlled by the energy supply and demand. In this study, we developed an efficient α -ketoglutarate production system using enzyme aggregated nanofibers and monolith reactor. The transamination reaction that converts alpha-ketoglutarate into glutamine and back is dependent on NAD. The monolith reactor was made from gas chromatography capillary columns with different lengths and filed with the GLDH aggregated polyaniline nanofiber (PANF).

When the flow rate was controlled at 1 ml/hr and 45°C, the conversion of α -ketoglutarate from glutamate was 17.35%.