Lipase-variants for catalysis in supercritical fluids  
(Eggert-Jaeger/Greiner-Leitner)

Lipase catalysed reactions have proven to be feasible in supercritical fluids (scF). The reactions benefit from the adjustability of the solvent by the physical parameters. This facilitates integrated work-up and decoupling of residence times for the reactants in continuous reactions. However, as they deviate largely from other reaction media, scF are demanding for adopted enzymes. Especially factors leading to stability are not understood. Screening of existing and newly created lipase variant libraries for stability and activity and establishing a structure-activity relationship under high pressures.

Areas of expertise

Applicants must have a strong background in molecular biology and high throughput experimentation. Knowledge in analytics for these purposes is highly welcome. Skills in handling of high pressures and scF are not absolutely mandatory.