

P028 High Throughput Screening of Transaminase Enzymes: Detection of Pyruvate by Enzymatic and non-Enzymatic Methods
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The transaminase group of enzymes transfer an amino group from an amino acid donor onto a keto-acid acceptor and form part of the amino acid metabolic pathway.

Members of the ω class of transaminases, such as an enzyme found in *Vibrio fluvialis* are however not limited to carboxylic acid substrates. Such enzymes could broaden the range of available biocatalytic amination reactions to include aldehyde and ketol substrates.

Alanine can act as an amino donor, yielding pyruvate upon amination of a desired substrate. Broad range activity assays can therefore be designed if the side product pyruvate can be detected in the reaction mixture. Two such assays will be compared:

1) Pyruvate Oxidase / Peroxidase coupled:

Pyruvate Oxidase converts pyruvate to acetylphosphate and hydrogen peroxide. The peroxide can then be detected via a coupled peroxidase, for which many colour substrates are available.

2) In situ production of azo dyes

Diazonium salts react with number of α -ketoacids to produce coloured azo dyes. The reaction of the fast Violet B salt and pyruvate yields a red azo dye. Tested aldehydes and amines are inert.