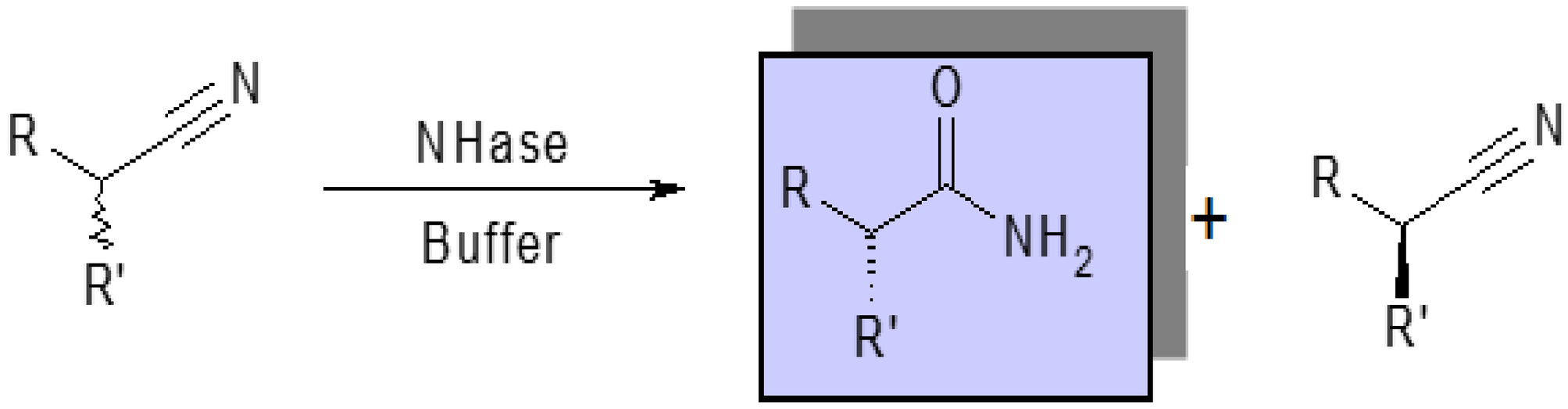
Nitrile Hydratase Enzyme Screening Kit

NHESK-900 (50 mg)

Partnering to Advance Human Health

Applications

Synthesis of amides and carboxylic acids by enzymatic hydrolysis of nitriles.



Kit description

The kit contains 9 diverse pre-formulated nitrile hydratase biocatalysts as lyophilised powders in 96-well format, as well as pre-prepared phosphate buffer.

NHase contained in screening kit

NH-101
NH-102
NH-103
NH-104
NH-105
NH-106
NH-107
NH-108
NH-109

Contents

NHases	9 vials lyophilised powder (50 mg each)
DMSO	1 vial (10 mL)
0.1M KH_2PO_4 buffer (pH 7.0)	1 bottle (60 mL)

Screening Procedure

1.Into a flask/vial, add 15 mg NHase and 1 mL buffer*.

2.Add a solution of ~20 mg substrate in organic solvent (50-150 µL, depending on solubility) such as DMSO or MTBE.

3.Add an additional 3-4 mL of buffer.

4.Shake/stir at room temperature (or ideally 30 ºC). Agitate for 1-3 days

5.Extract product with an organic solvent (MTBE, EtOAc etc.).

6.Analyse sample by chiral GC/HPLC to determine conversion and product ee.

*It is not advisable to keep stock solutions of enzymes, as these will degrade over time. Make each stock solution fresh on the day of use. An adequate supply of nitrile hydratases have been provided for 3 screens.

Storage: Recommend refrigeration at 4°C to preserve enzyme activity.

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ALMAC

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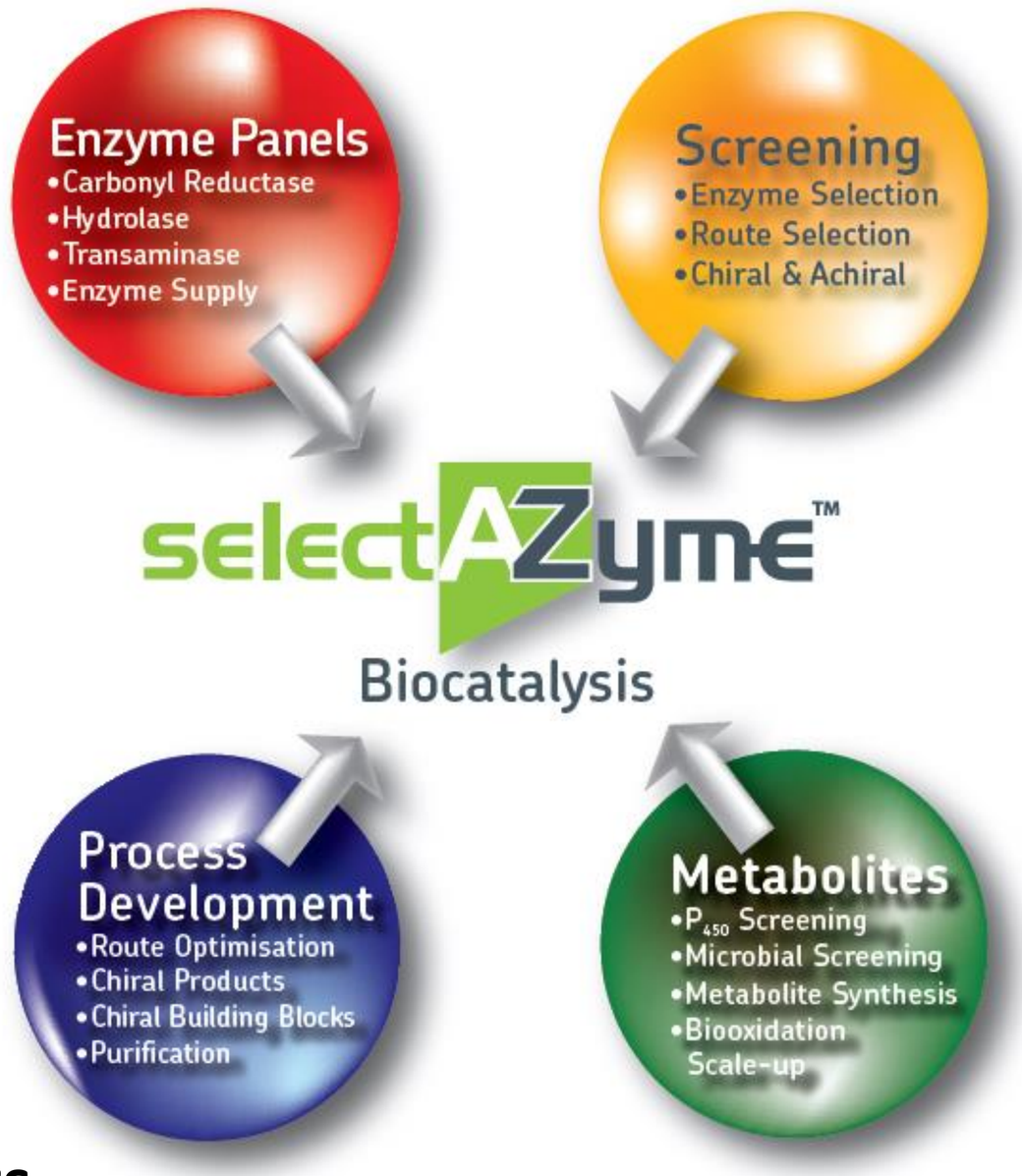
selectAZyme™

selectAZyme Offerings

- An ever-expanding biocatalysis team including molecular and microbiologists, enzymologists, bioinformaticians, organic chemists and analysts, all equipped with state-of-the art facilities.
- Expertise in gene identification, expression, fermentation and enzyme production, followed by the efficient use of enzymes to produce complex chiral APIs.
- Enzyme evolution based on computational re-design, semi-rational and random mutagenesis approaches, allowing access to bespoke biocatalysts with enhanced activity, selectivity and process robustness.
- Fully integrated biocatalyst development through screening, (chemo-) enzymatic route definition, process development and scale up (pilot plant facilities available).
- Rapid implementation of enzymatic steps in complex, multi-stage syntheses, leading to significant improvements in production yields and timelines.
- A simple business model that avoids IP issues.



The selectAZyme Range of Enzyme Screening Kits

Our selectAZmye kits include a detailed user guide and come with all buffers, cofactors, recycling systems and reagents necessary to perform screens using standard laboratory equipment.

Carbonyl Reductase (CRED) biocatalysts

96 CRED biocatalysts for the production of chiral alcohols and/or use in cofactor recycling schemes

Aldehyde Reductase (ARED) biocatalysts

16 ARED biocatalysts

Hydrolase biocatalysts

48 commercially available hydrolases for selective acylation of alcohols and amines.

Nitrilase and Nitrile Hydratase (NHase) biocatalysts

9 NHases and 15 nitrilases

Transaminase (TAm) biocatalysts

96 TAms for the prodcution of chiral amines from pro-chiral ketones.

Ene Reductase (ERED) biocatalysts

143 ERED biocatalysts for asymmetric reduction of activated alkenes

P450 Monooxygenase biocatalysts

96 P450 monooxygenase biocatalysts for a huge range of highly selective oxidations

Want Almac to do the screening for you?

- Our experienced biocatalysis team can screen all of our enzymes against your target substrate(s) and simply provide the results.
- Flexible options for subsequent enzyme supply, evolution services, process development and scale up as required.

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