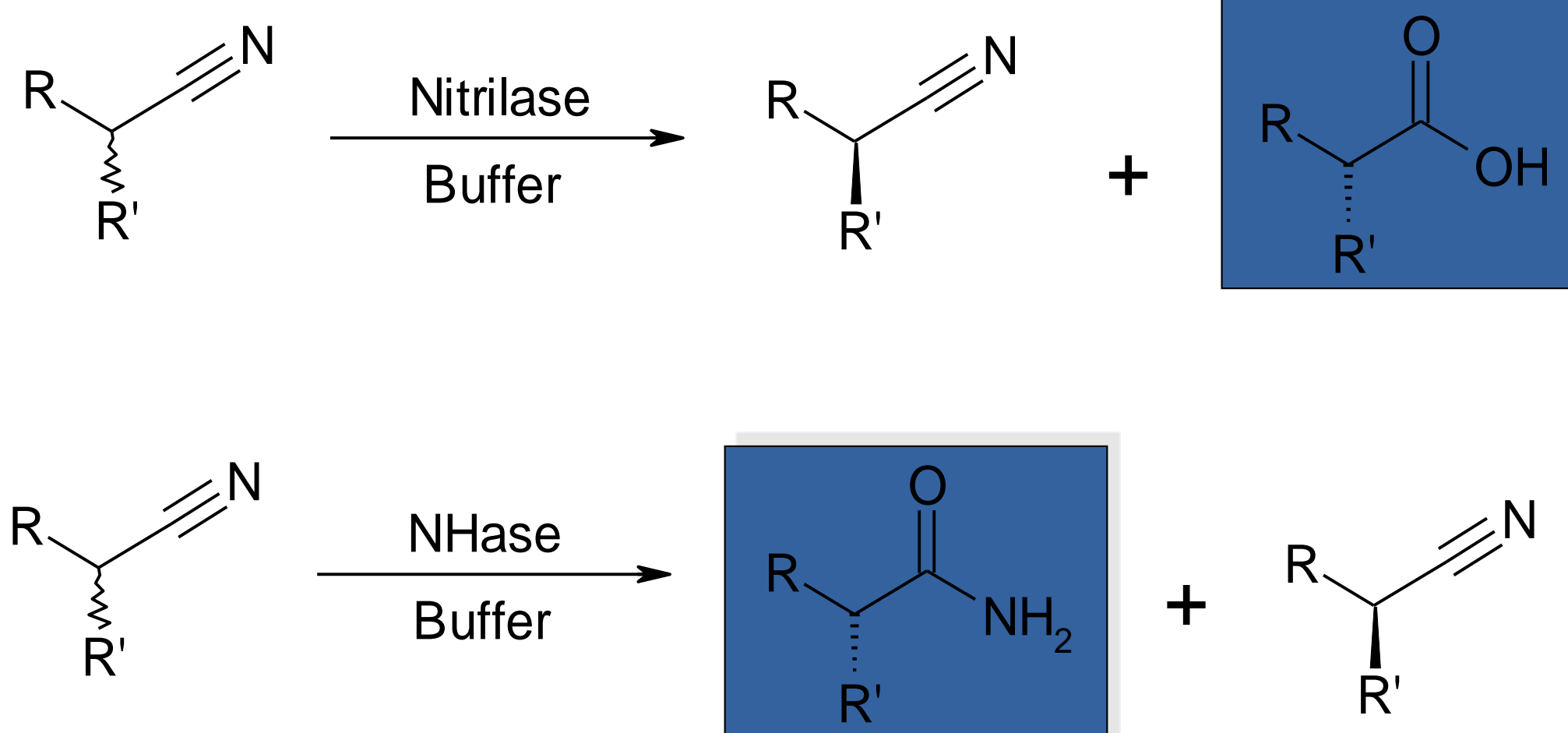


Applications

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



Kit description

The kit contains 9 diverse pre-formulated nitrile hydratase biocatalysts and 15 nitrilase biocatalysts as lyophilised powders, as well as pre-prepared phosphate buffer.

Enzymes included in kit

Enzyme	Enzyme type	Enzyme	Enzyme type
NH-101	NHase	NIT-101	Nitrilase
NH-102	NHase	NIT-102	Nitrilase
NH-103	NHase	NIT-103	Nitrilase
NH-104	NHase	NIT-104	Nitrilase
NH-105	NHase	NIT-105	Nitrilase
NH-106	NHase	NIT-106	Nitrilase
NH-107	NHase	NIT-107	Nitrilase
NH-108	NHase	NIT-108	Nitrilase
NH-109	NHase	NIT-110	Nitrilase
		NIT-112	Nitrilase
		NIT-113	Nitrilase
		NIT-114	Nitrilase
		NIT-115	Nitrilase
		NIT-118	Nitrilase
		NIT-121	Nitrilase

Contents

NHases	9 vials lyophilised powder (50 mg each)
Nitrilases	15 vials lyophilised powder (50 mg each)
DMSO	1 vial (10 mL)
0.1M KH_2PO_4 buffer (pH 7.0)	1 bottle (200 mL)

Screening Procedure

1. Into a flask/vial, add 15 mg NHase or nitrilase and 1 mL buffer*.
2. Add a solution of ~20 mg substrate in organic solvent (50-150 μ L, 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 °C). Agitate overnight.
5. Extract product with an organic solvent (MTBE, EtOAc etc.).
6. Analyse sample by chiral GC/HPLC to determine conversion and product ee.

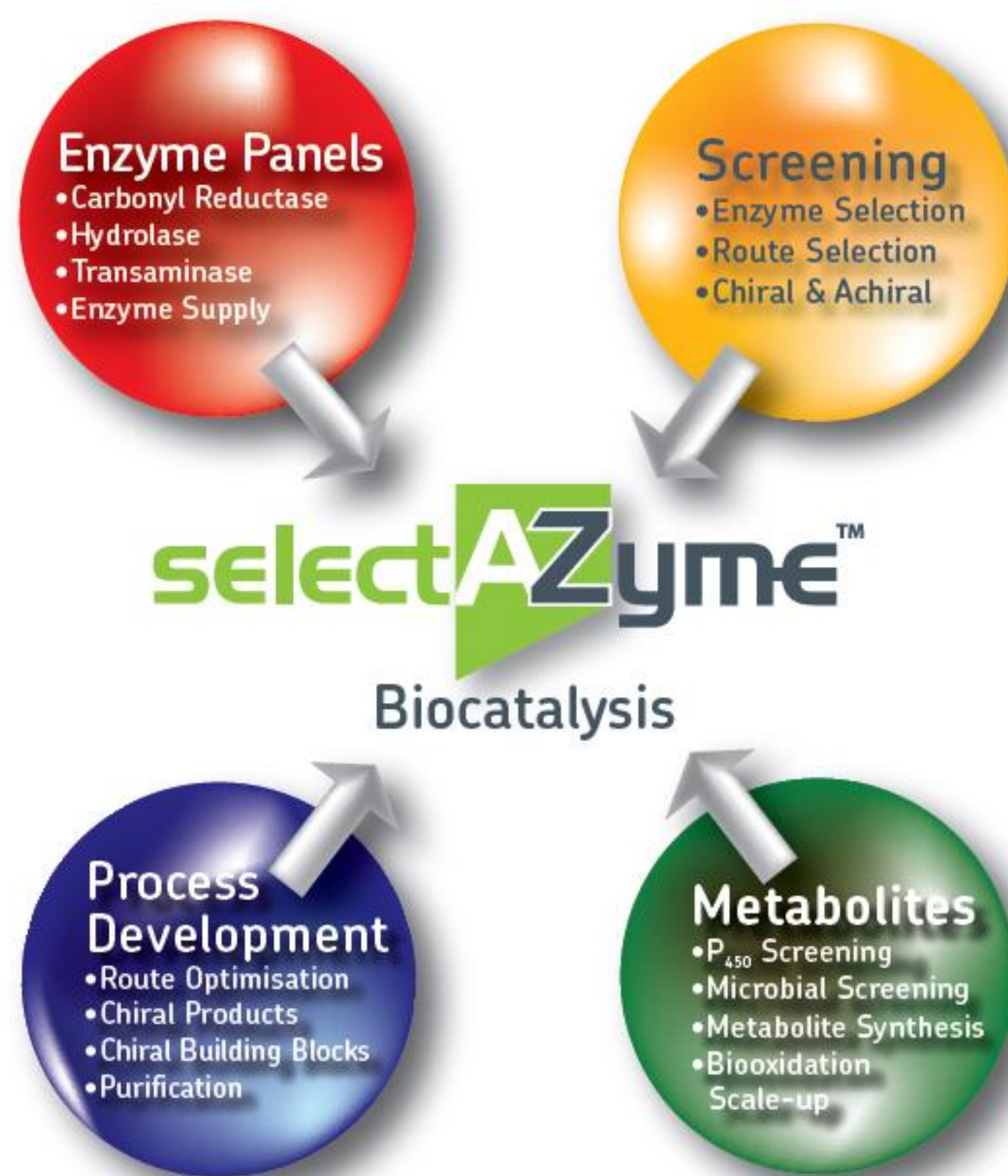
*It is not advisable to keep stock solutions of enzymes, as these will degrade over time. Make each stock solution fresh on the day of use. An adequate supply of NHases and nitrilases have been provided for 3 screens with each enzyme

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

Nitrile Manipulator Enzyme Screening Kit NESK-2400 (50 mg)

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 selectAZyme 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 TAm for the production 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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