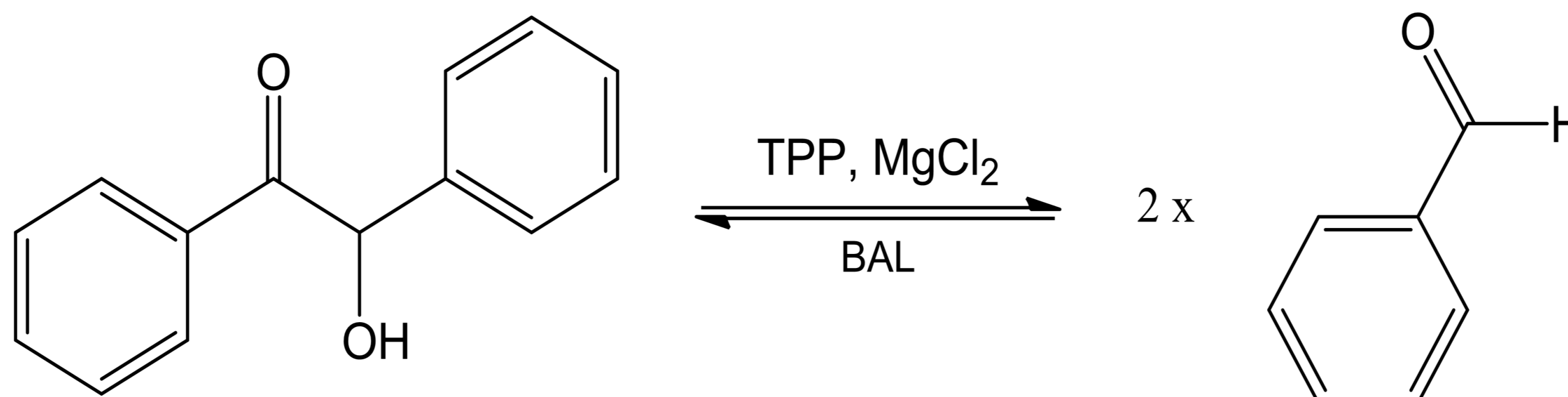


## Applications

Selective lysis and formation of 2-Hydroxy Ketones from / to aldehydes.

## Substrate range



## Kit description

The kit contains 5 diverse pre-formulated Benzaldehyde Lyase (BAL) catalysts as lyophilised powders, as well as pre-prepared Tris Buffer, Thiamine pyrophosphate (TPP) and Magnesium Chloride (MgCl<sub>2</sub>).

### **BAL enzymes included in kit**

BAL-001
BAL002
BAL-003
BAL-004
BAL-005

### **Contents**

BALs	5 enzymes (50 mg) as lyophilised powder
TPP	1 Vial (50 mg)
MgCl <sub>2</sub>	1 Vial (100 mg)
20 mM Tris Buffer, pH 8.0	1 Bottle (20 mL)

## Screening Procedure

1. Prepare a 1 mL solution: 0.15 mM of Substrate, in 20 mM Tris-Cl (pH 8.0) containing, 0.01 mM TPP, 0.1 mM MgCl<sub>2</sub>·6H<sub>2</sub>O
2. Incubate 1 mL stock at 37 °C for 3-5 min.
3. Add rehydrated enzyme and incubate for an additional 2 min.
4. Either measure changes in absorbance of substrate / product complex or extract and analyse sample by GC/HPLC to determine conversion and product ee.

\*It is recommended to make the reaction mix solution fresh and use immediately. Avoid storage of the reaction mix as a solution, as this will degrade over time.

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



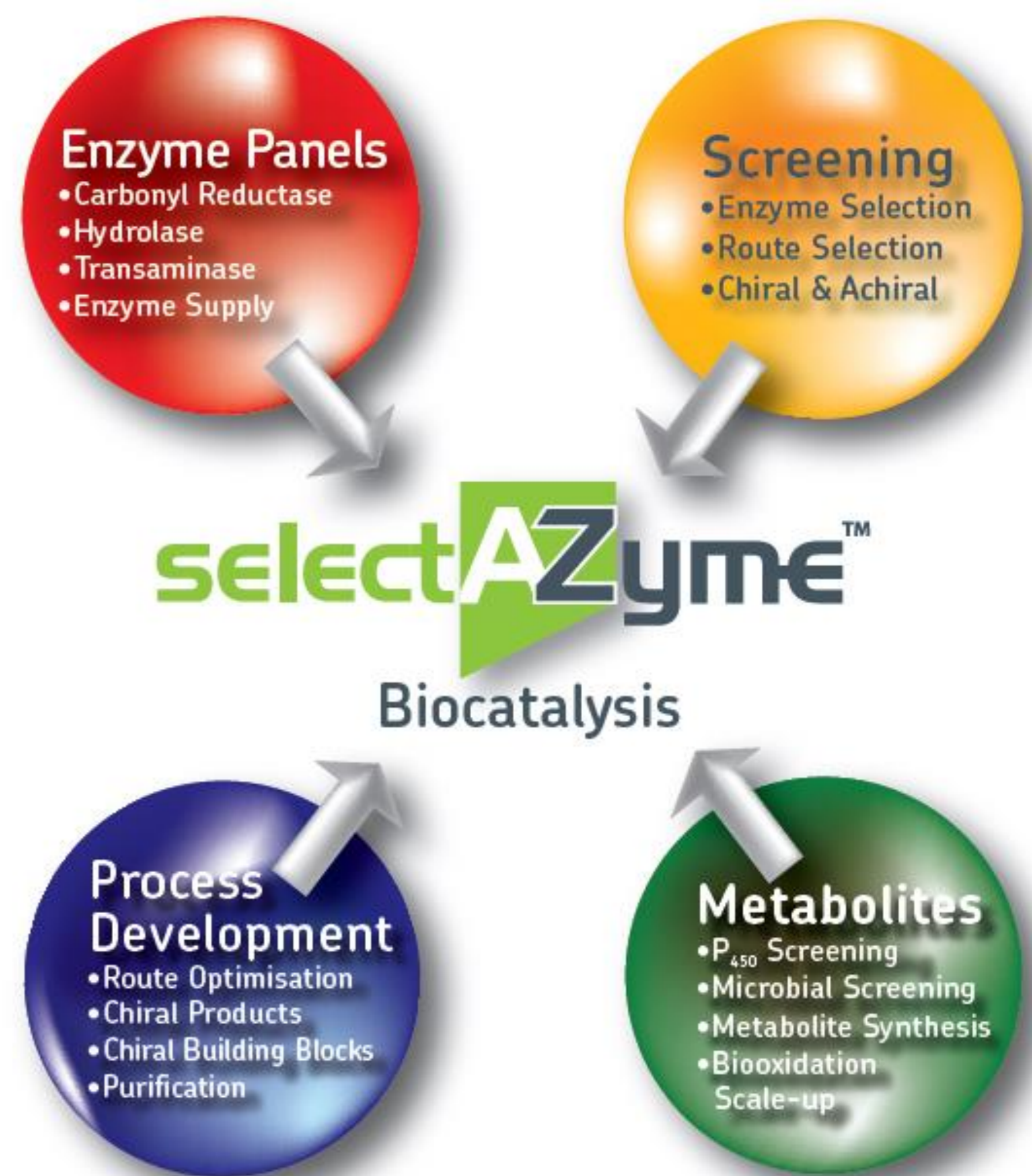
# Benzaldehyde Lyase (BAL)

## Enzyme Screening Kit

### BALESK-500 (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.

### Technical Contacts:

Prof. Tom Moody, Tel: +44 (0)28 3833 2200 Ext. 5517, E-mail: [tom.moody@almacgroup.com](mailto:tom.moody@almacgroup.com).

Dr. Derek Quinn, Tel: +44 (0)28 3833 2200 Ext. 5833, E-mail: [derek.quinn@almacgroup.com](mailto:derek.quinn@almacgroup.com).

Address: Almac Biocatalysis & Isotope Chemistry Group,

20 Seagoe Industrial Estate, Craigavon BT63 5QD

Web: [www.almacgroup.com](http://www.almacgroup.com),

Email: [biocatalysis@almacgroup.com](mailto:biocatalysis@almacgroup.com)