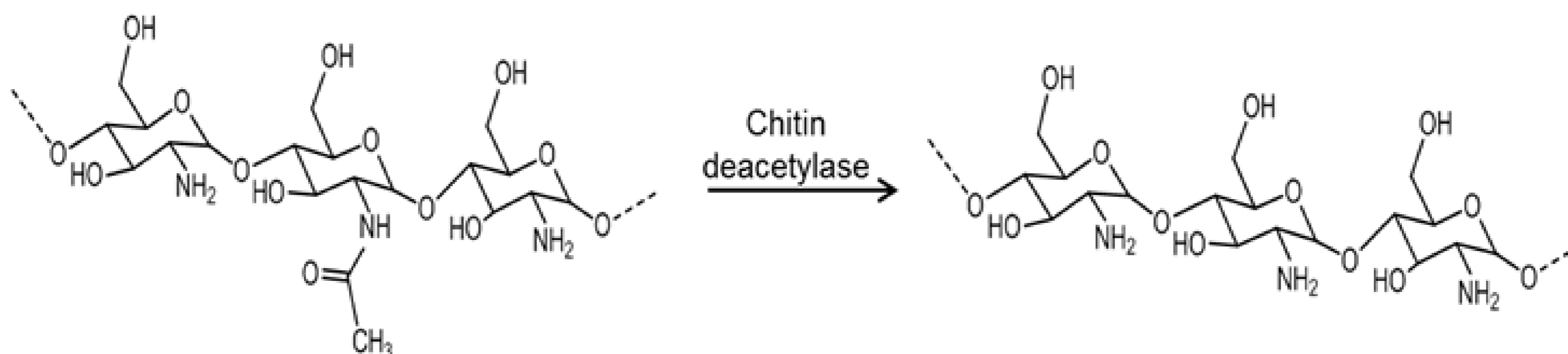


## Applications

Chitin deacetylases catalyses the hydrolysis the acetamino group in the *N*-acetylglucosamine units of chitin and chitosan.



## Kit description

The kit contains 5 diverse pre-formulated CHDs biocatalysts as lyophilised powders, as well as pre-prepared Tris buffer.

### CHDs included in kit

CHD01
CHD02
CHD03
CHD04
CHD05

### Contents

<b>CHDs</b>	5 enzymes (10 mg each)
50 mM Tris Buffer, pH 7.4 + 0.5mM MnCl <sub>2</sub>	1 Bottle (10 mL)

## Screening Procedure

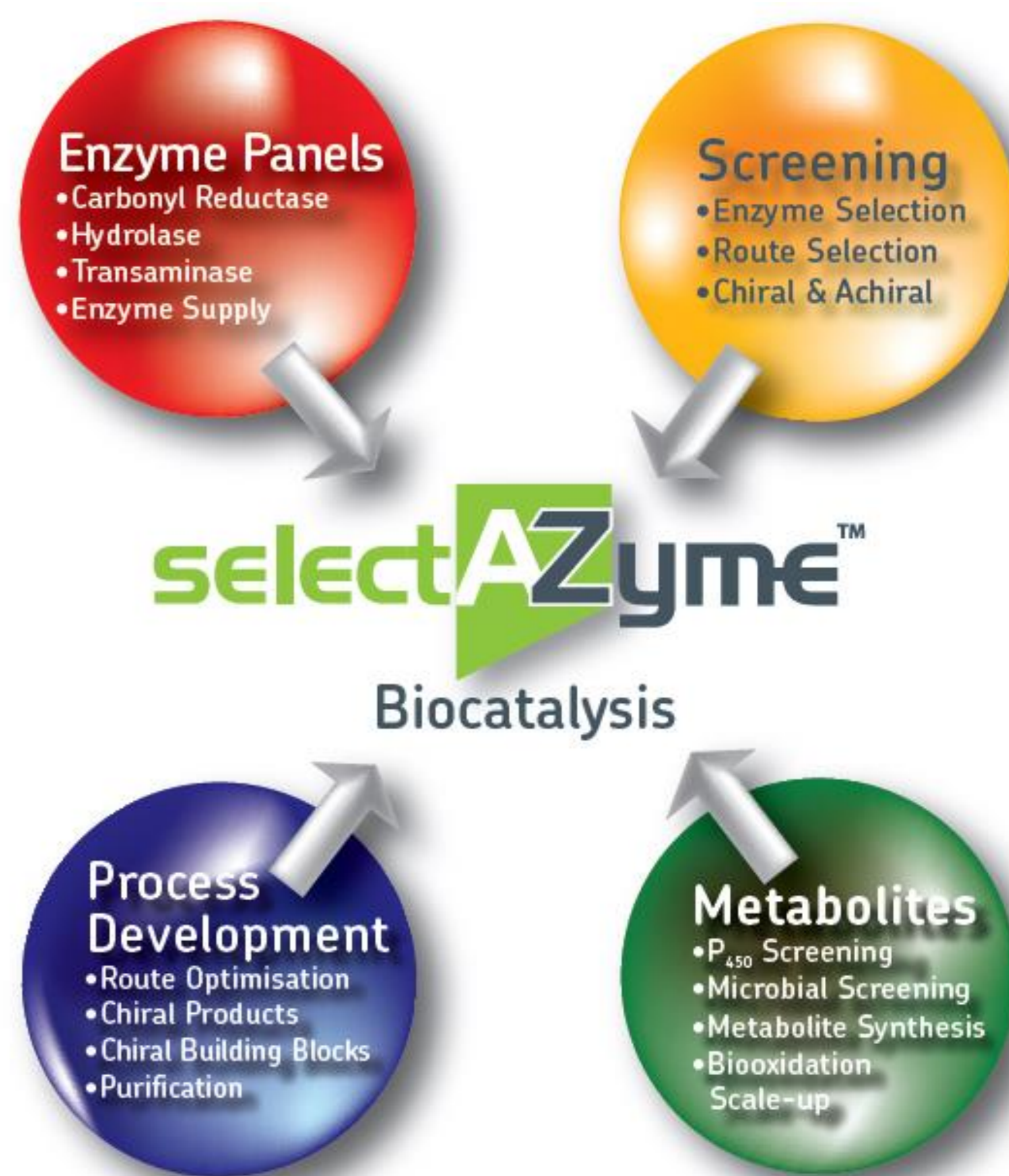
1. Into a flask/vial, add 15 mg CHD enzyme in 50mM Tris-HCl buffer pH7.4 with 0.5 mM MnCl<sub>2</sub>.
2. Add a solution of ~5 mg substrate. If need it can be dissolved in organic solvent (50-150 μL, depending on solubility) such as DMSO or MTBE.
3. Shake/stir at room temperature (or ideally 35 °C). Agitate overnight.
4. Extract product with an organic solvent (MTBE, EtOAc etc.), if needed.
5. Analyse sample by GC/HPLC to determine conversion.

\*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.

## 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)