

# Lactamase Enzyme Screening Kit

## LESK-600 (50 mg)

## Applications

Selective cleavage of lactams to form amino acids.

## Kit description

The kit contains 6 diverse pre-formulated lactamase biocatalysts as lyophilised powders, as well as pre-prepared phosphate buffer.

### Lactamases included in kit

LACT-0101
LACT-0102
LACT-0103
LACT-0104
LACT-0105
LACT-0106

### Contents

Lactamases	6 vials lyophilised powder (50 mg each)
0.1M KH <sub>2</sub> PO <sub>4</sub> buffer (pH 7.0)	2 bottles (2 x 200 mL)

## Screening Procedure

1. Into a flask/vial, add 10 mg/mL solution of lactamase in buffer (1 mL)\*.
2. Add a solution of ~1 mg substrate in organic solvent (5-15  $\mu$ L, depending on solubility) such as DMSO or ACN.
3. Shake/stir at room temperature (or ideally 30 °C). Agitate overnight.
4. Extract product with an organic solvent (MTBE, EtOAc etc.).
5. Analyse sample by GC/HPLC to determine conversion and product ee.

\*It is not advisable to keep stock solutions of cofactors or enzymes, as these will degrade over time. Make each stock solution fresh on the day of use.

An adequate supply of enzyme has been provided for 5 screens.

**Storage:** The lactamase enzyme screening kit should be stored in a refrigerator at <4 °C to preserve activity

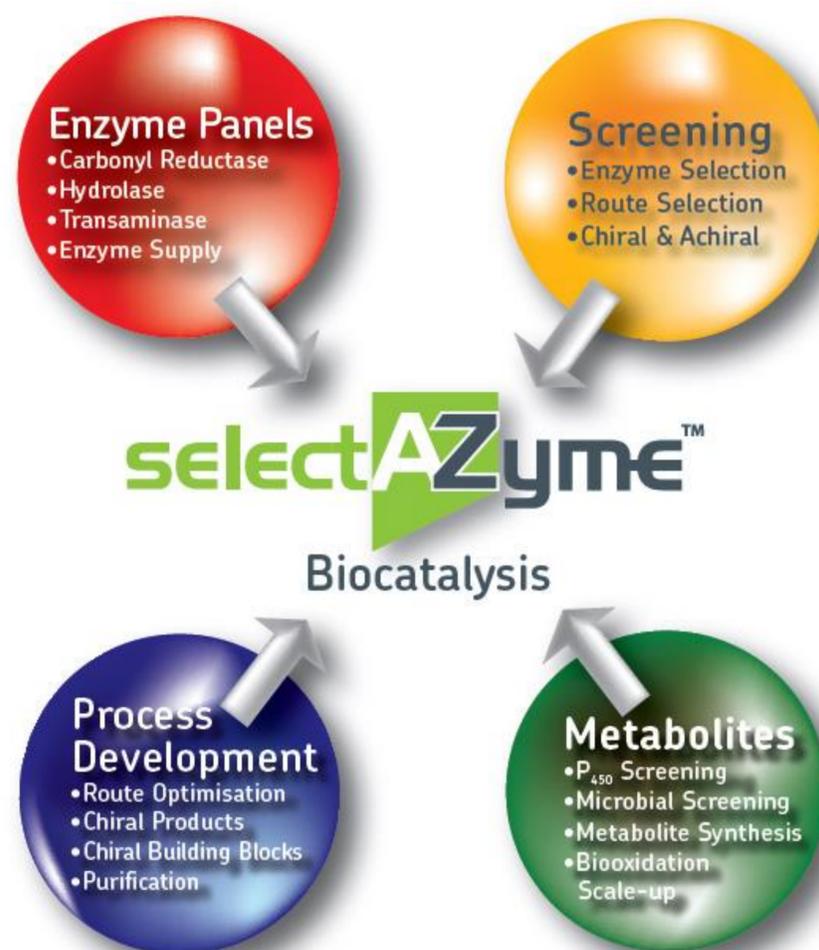
# Lactamase

## Enzyme Screening Kit

### LESK-600 (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:

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