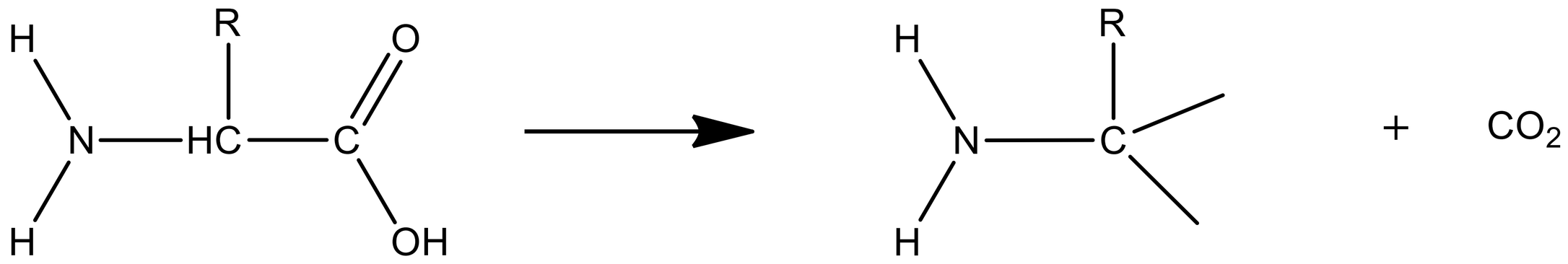
Aspartate Decarboxylase (ADC) Enzyme Screening Kit

ADCESK-900 (50 mg)

Partnering to Advance Human Health

Applications

Removal of carboxylic acids from organic molecules with the release of carbon dioxide.



Kit description

The kit contains 9 diverse pre-formulated aspartate decarboxylase (ADC) biocatalysts as lyophilised powders, as well as pre-prepared phosphate and Tris buffer, pyridoxal-5'-phosphate (PLP), ketoglutaric acid and $MgCl_2$.

ADCs included in kit

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

Contents

Decarboxylase	9 enzymes (50 mg)
PLP	1 vial (85 mg)
ketoglutaric acid	1 vial (85 mg)
0.1M Tris buffer with 10 mM $MgCl_2$	1 bottle (25 mL)
0.1M KH_2PO_4 buffer (pH 6.8)	1 bottle (25 mL)

*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. An adequate supply of PLP, ketoglutaric acid and buffer is provided for screen. Additional PLP and ketoglutaric acid can be purchased from Almac if required.

Screening Procedure for ADC enzymes

1. Label 9 x 2 mL vials corresponding to the enzymes provided in the kit.
2. Make up a 5 mM stock solution of PLP (67 mg in 5 mL of phosphate buffer).
3. Make up a 10 mM stock solution of ketoglutaric acid (75 mg in 5 mL of phosphate buffer).
4. Add 10 mg of Aspartate decarboxylase enzyme to the corresponding vial.
5. Add 800 µL phosphate buffer to each vial.
6. Add 100 µL of PLP stock solution to each vial.
7. Add 100 µL of ketoglutaric acid stock solution in each vial.
8. Incubate vials at 37 ^{o}C for 40 mins before addition of ~ 1-5 mg of substrate.
9. Agitate at room temperature (or ideally 40 ^{o}C) overnight.
10. Analyse sample by GC/HPLC to determine conversion.

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

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ALMAC

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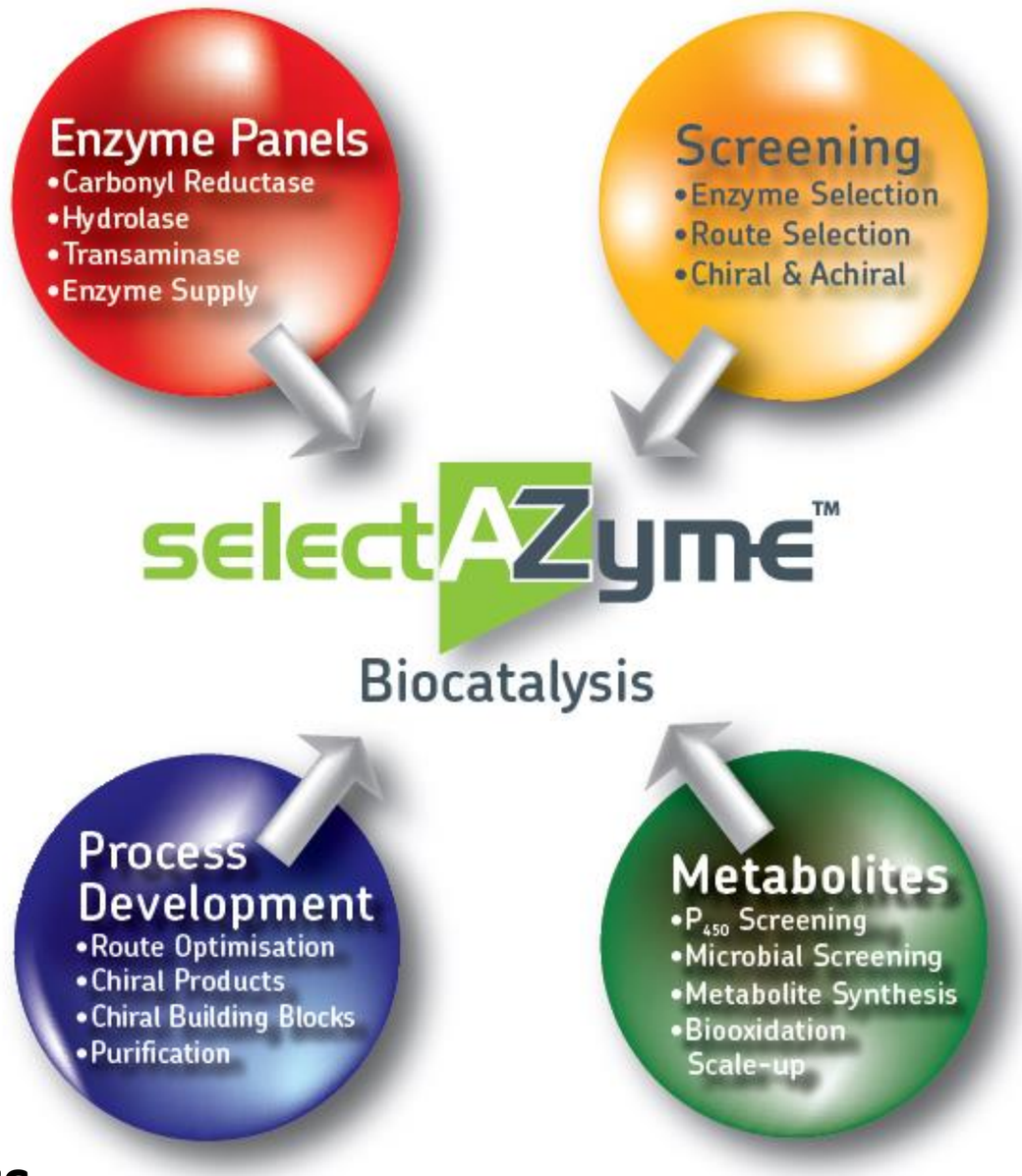
selectAZyme™

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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