Cyclooxygenase Enzyme Screening Kit

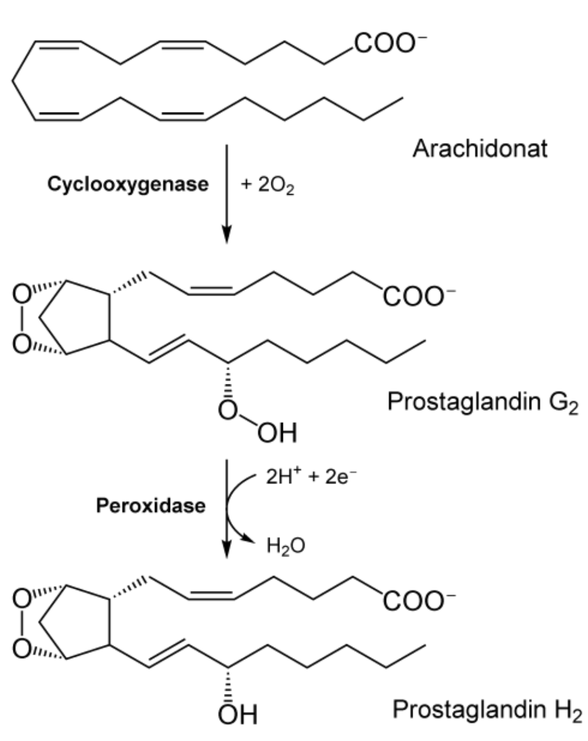
CoESK-1100

Partnering to Advance Human Health

Applications

Cyclooxygenases are enzymes responsible for the formation of prostanoids.

The reaction involves both cyclooxygenase (dioxygenase) and hydroperoxidase (peroxydase) activity. The cyclooxygenase activity incorporates two oxygen molecules into arachidonic acid or alternate polyunsaturated fatty acid substrates, such as linoleic acid and eicosapentaenoic acid. Metabolism of the fatty acid usually forms a labile intermediate peroxide, which is reduced to the corresponding alcohol, by the enzyme's hydroperoxidase activity



Kit description

The kit contains 11 diverse pre-formulated cyclooxygenases biocatalysts as lyophilised powders, as well as pre-prepared Tris buffer.

Cycloxygenases included in this kit

PG-101	PG-107
PG-102	PG-108
PG-103	PG-109
PG-104	PG-110
PG-105	PG-111
PG-106	

Contents

Cyclooxygenases	11 enzymes (10 mg each)
DMSO	1 vial (10 mL)
0.1M Tris buffer (pH 6)	1 bottle (50 mL)

Screening Procedure

1.Add 5-10 mg of enzyme dissolved in buffer to each reaction (500 µL-1 ml)

2.Add a solution of ~10 mg substrate in organic solvent (50-100 µL, depending on solubility) such as DMSO or MTBE.

3.Shake/stir at room temperature (or ideally 25 ºC). Agitate overnight.

4.Extract product with an organic solvent (MTBE, EtOAc etc.).

5.Analyse sample by chiral 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

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ALMAC
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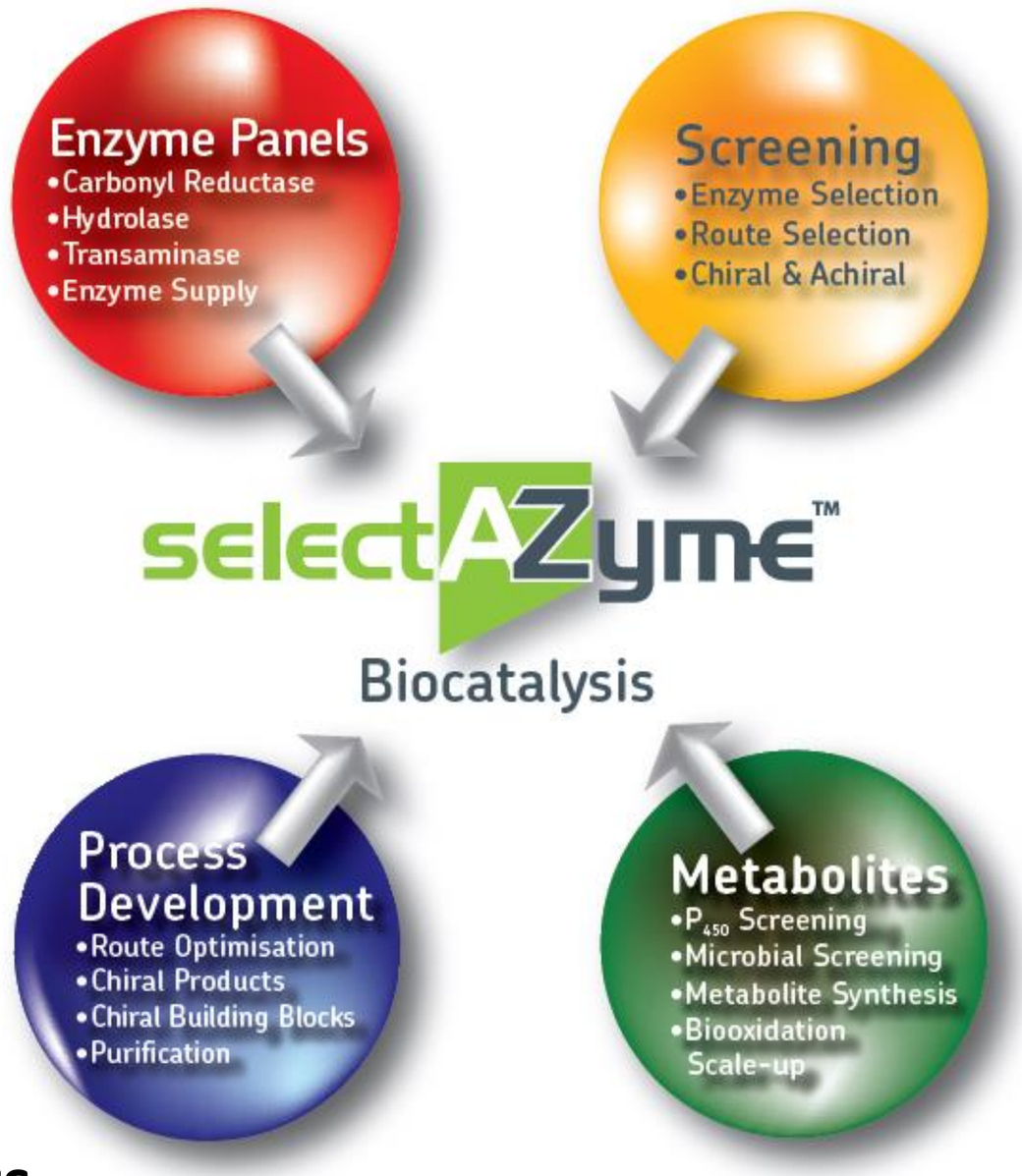
selectAZyme™

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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