Ene Reductase (ERED) Enzyme Screening Kit

ERESK-4800

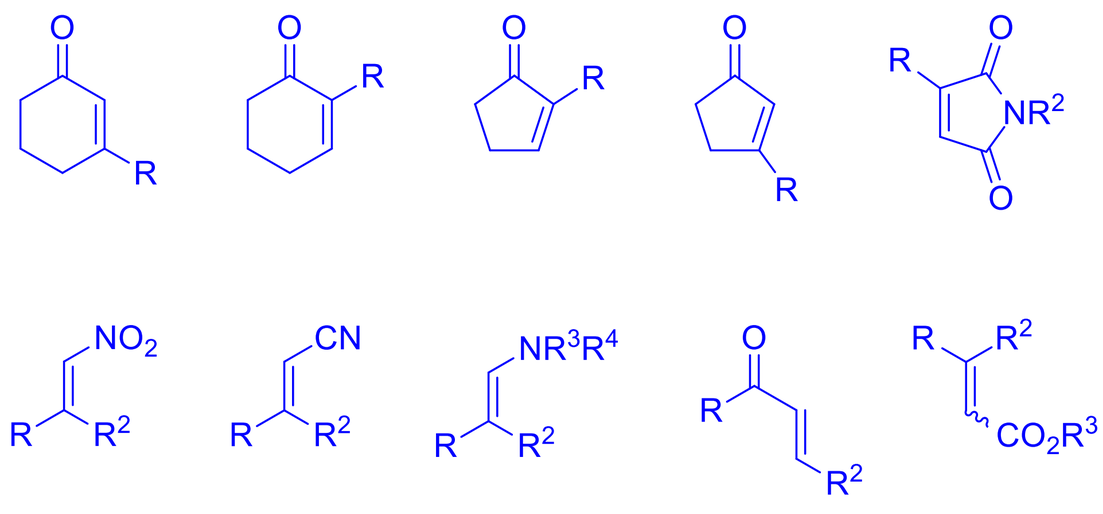
Partnering to Advance Human Health

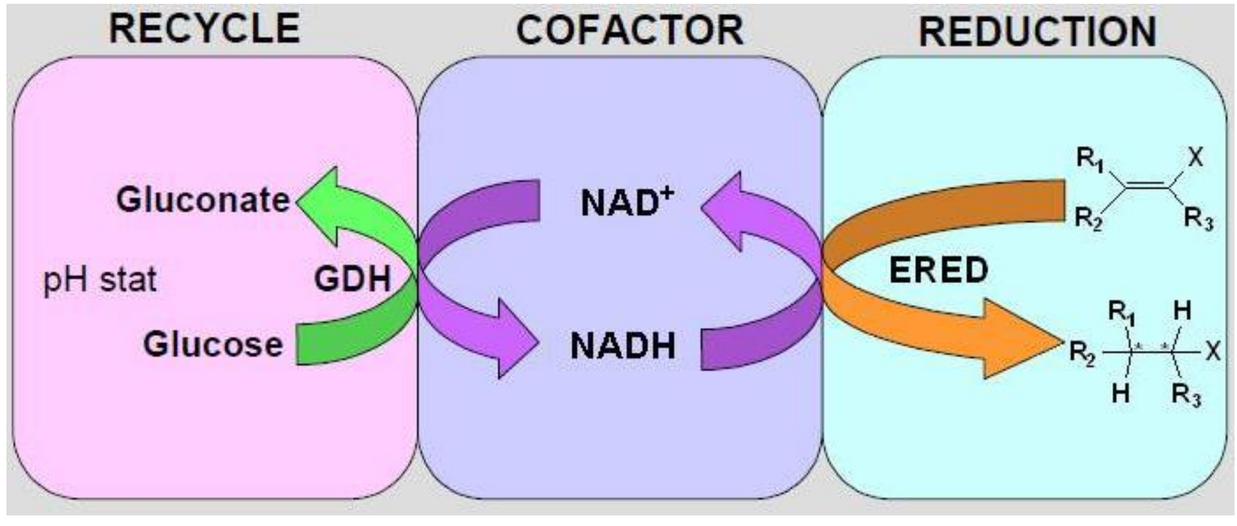
selectAZyme™

Applications

- Reduction of electron deficient olefins.
- Allows formation of up to two new chiral centres from pro-chiral olefins.
- Allows regioselective reduction in a molecule containing more than one alkene moiety.
- Activities with a wide variety of structurally diverse olefins. A selection is shown below.

Substrate Range





Kit description

The kit contains 48 diverse pre-formulated ene reductase (ERED) biocatalysts as lyophilised powders in a 96 well plate format, as well as pre-prepared Tris buffer and reaction mix for the cofactor recycle system.

EREDs contained in the screening kit

4800	1	2	3	4	5	6	7
A	401	410	419	427	435	443	
B	402	411	420	428	436	444	
C	403	412	421	429	437	445	
D	404	413	422	430	438	101	
E	406	414	423	431	439	102	
F	407	415	424	432	440	103	
G	408	416	425	433	441	104	
H	409	417	426	434	442	105	

Contents:

EREDs	48 (10 mg each)
Reaction mix*	1 vial (1.5 g)
DMSO	1 vial (5 ml)
0.1M Tris buffer (pH 7.5)	1 bottle (25 ml)

*Once dissolved in 25 ml Tris buffer, reaction mix contains 60 mg/ml glucose, 2 mg/ml NAD/NADP and 6 mg/ml GDH

Screening Procedure

1. Into a vial, add Tris buffer to the reaction mix.**
2. Once dissolved, add 500 µl of the reaction mix solution to each well.
3. Add a solution of ~10 mg substrate in organic solvent (50-100 µl, depending on solubility), e.g. DMSO or MTBE.
4. Shake/stir at room temperature (or ideally 30 ºC). Agitate overnight.
5. Extract product with an organic solvent (MTBE, EtOAc etc.).
6. Analyse samples.

**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 NAD, NADP, GDH, glucose and buffer is provided for screening one plate. Additional GDH, buffer, glucose, NAD and NADP can be purchased from Almac if required.

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

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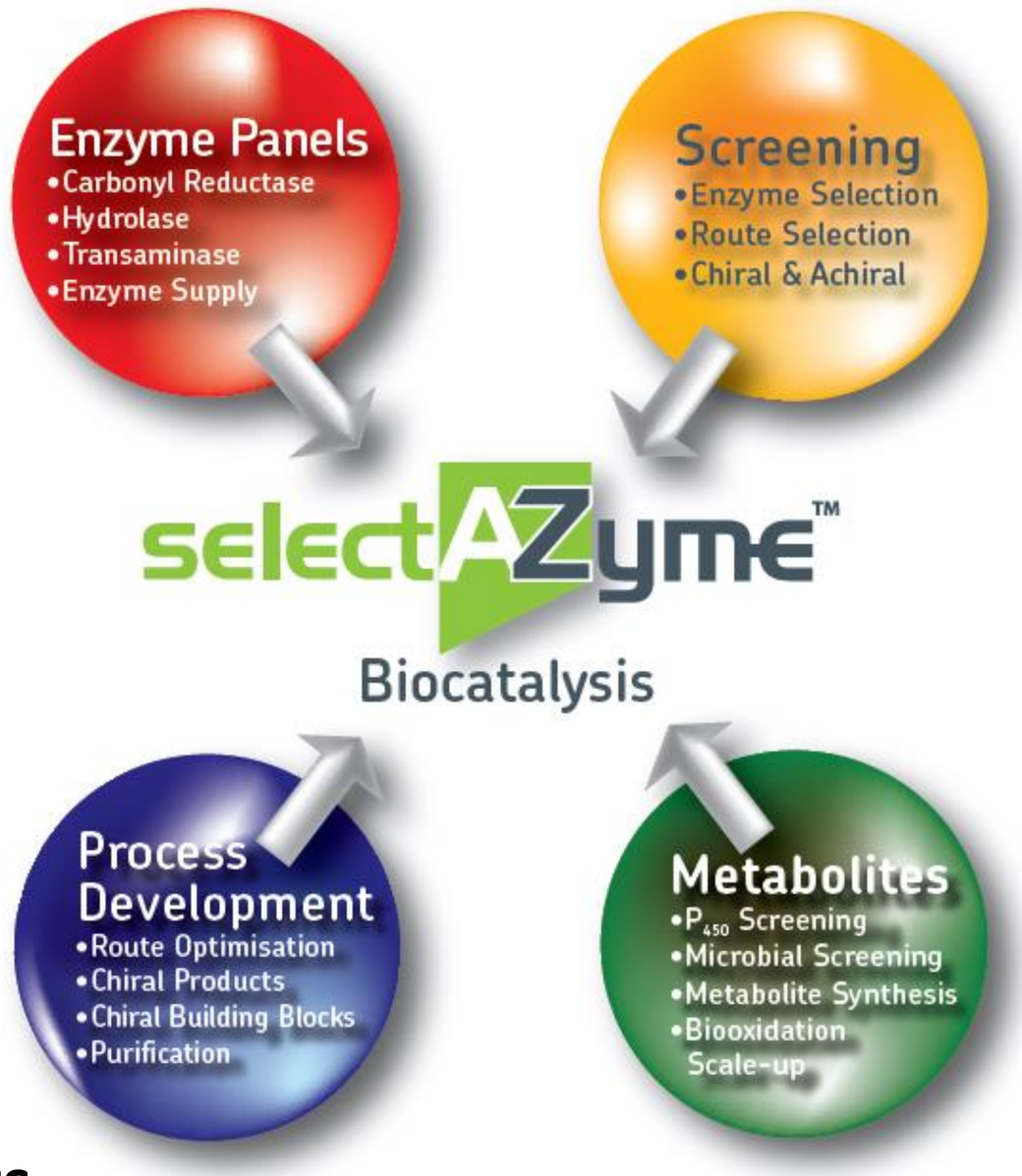
selectAZyme Offerings

- 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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