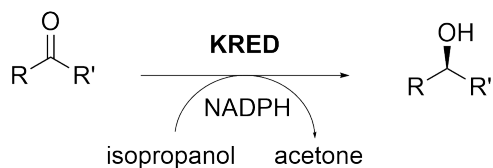


# Biocatalytic Screening Tools For Feasibility Assessment

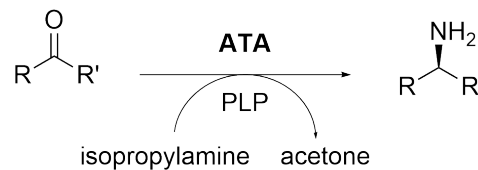
07-01-2021 | Page 1 of 4

## KETOREDUCTASES (KRED)



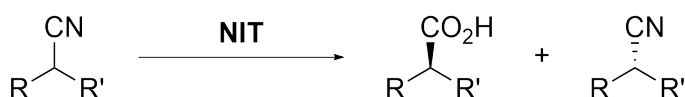
PRODUCT	# OF ENZYMES	FORMAT	AVAILABILITY
Codex® KRED Screening Kit	24	Vials (250 mg)	Off-the-shelf
Codex® KRED Panel	263	96 well-plate	Made-to-order batch

## TRANSAMINASES (ATA)



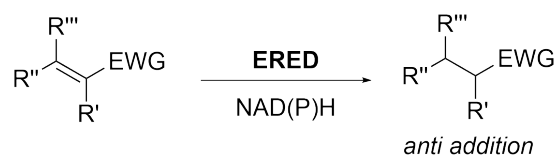
PRODUCT	# OF ENZYMES	FORMAT	AVAILABILITY
Codex® ATA Screening Kit	24	Vials (250 mg)	Off-the-shelf
Codex® ATA Panel	87	96 well-plate	Made-to-order batch

## NITRILASES (NIT)



PRODUCT	# OF ENZYMES	FORMAT	AVAILABILITY
Codex® NIT Screening Kit	12	Vials (250 mg)	Off-the-shelf

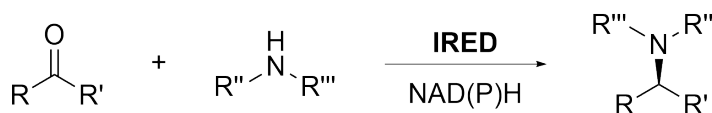
## ENE REDUCTASES (ERED)



EWG: nitro, aldehyde, ketone, ester, nitrile

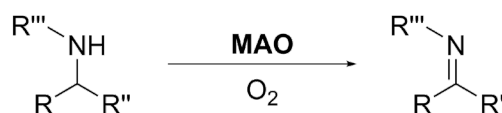
PRODUCT	# OF ENZYMES	FORMAT	AVAILABILITY
Codex® ERED Screening Kit	7	Vials (250 mg)	Off-the-shelf
Codex® ERED Panel	92	96 well-plate	Made-to-order batch

## IMINE REDUCTASES (IRED)



PRODUCT	# OF ENZYMES	FORMAT	AVAILABILITY
Codex® IRED Screening Kit (beta)	6	Vials (250 mg)	Made-to-order batch

## MONOAMINE OXIDASES (MAO)



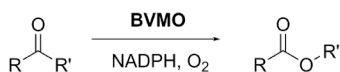
PRODUCT	# OF ENZYMES	FORMAT	AVAILABILITY
Codex® MAO Panel	90	96 well-plate	Made-to-order batch

# Biocatalytic Screening Tools For Feasibility Assessment

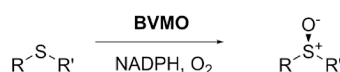
07-01-2021 | Page 2 of 4

## BAEYER-VILLIGER MONOOXYGENASES (BVMO)

Oxidation



Sulfoxidation



PRODUCT	# OF ENZYMES	FORMAT	AVAILABILITY
Codex® BVMO Panel	120	96 well-plate	Made-to-order batch

## ESTERASES (EST)

Amidation



Hydrolysis



PRODUCT	# OF ENZYMES	FORMAT	AVAILABILITY
Codex® Esterase Panel (for amidation)	86	96-well plate	Made-to-order batch

## ACYLASES (ACY)

Condensation



X = OH, NH<sub>2</sub> / Y = OH, NH<sub>2</sub>, OMe / Z = O, NH  
R' = -CH<sub>2</sub>Ar, -CH<sub>2</sub>OAr, -CH(Y)Ar

Resolution



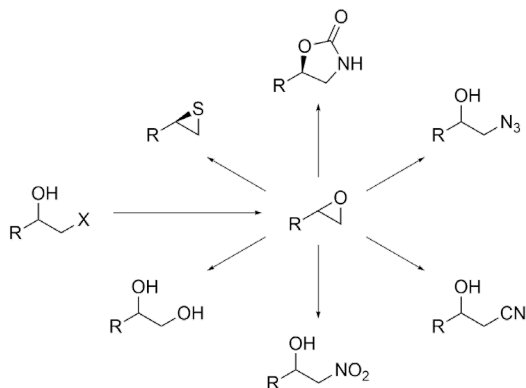
X = OH, NH<sub>2</sub> / Y = OH, NH<sub>2</sub>, OMe / Z = O, NH  
R' = -CH<sub>2</sub>Ar, -CH<sub>2</sub>OAr, -CH(Y)Ar

PRODUCT	# OF ENZYMES	FORMAT	AVAILABILITY
Codex® ACY Panel	89	96-well plate	Made-to-order batch

# Biocatalytic Screening Tools For Feasibility Assessment

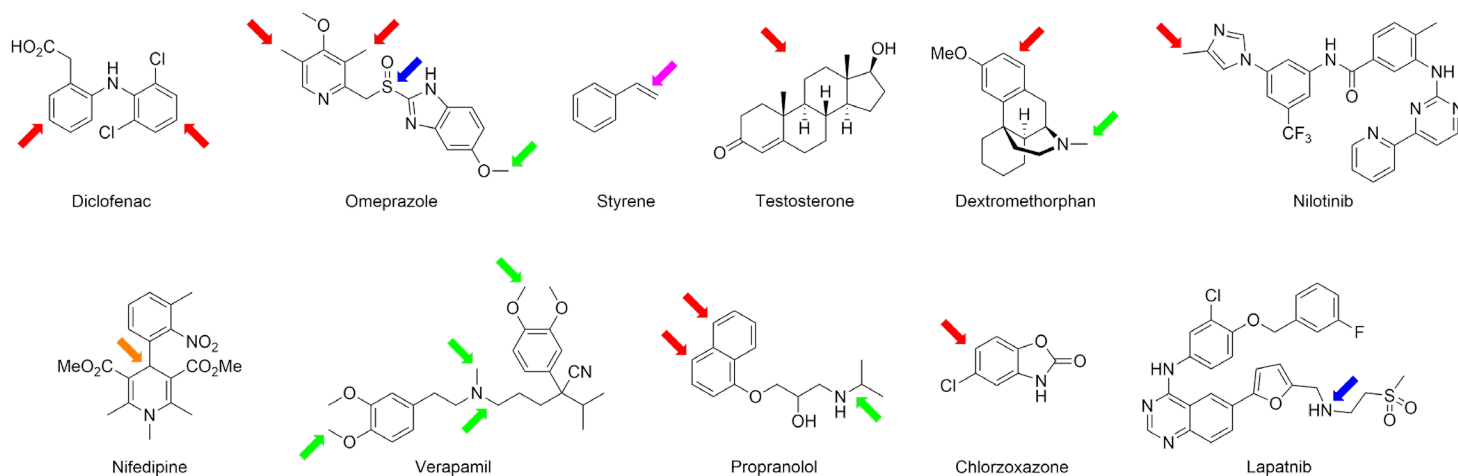
07-01-2021 | Page 3 of 4

## HALOHYDRIN DEHALOGENASES (HHDH)



PRODUCT	# OF ENZYMES	FORMAT	AVAILABILITY
Codex® HHDH Panel	178	96-well plate	Made-to-order batch

## MICROCYP® (MCYP®) P450 ENZYMES



Hydroxylation / O-and-N dealkylation / Heteroatom Oxidation / Dehydrogenation / Epoxidation

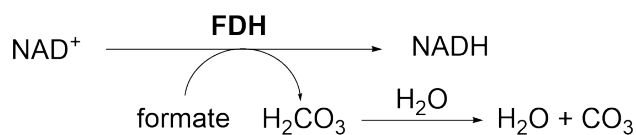
PRODUCT	# OF ENZYMES	FORMAT	AVAILABILITY
Codex® MCYP® Standard Kit	23	24-well plate   2.4 nmol well	Off-the-shelf
Codex® MCYP® Elite Kit	11 (in duplicates)	24-well plate   2.4 nmol well	Off-the-shelf

# Biocatalytic Screening Tools

## For Feasibility Assessment

07-01-2021 | Page 4 of 4

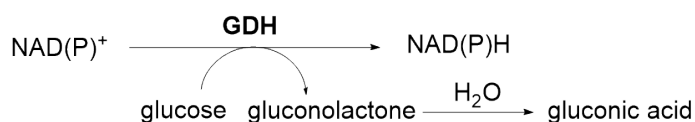
### FORMATE DEHYDROGENASE



Formate Dehydrogenases (FDHs) enable the regeneration of NADH from NAD<sup>+</sup> by catalyzing the oxidation of formate to bicarbonate. The driving force is the release of CO<sub>2</sub>.

FDH-101 is a natural enzyme with a specific activity of  $\geq 1.0$  U/mg.

### GLUCOSE DEHYDROGENASE



Glucose Dehydrogenases enable the regeneration of NAD(P)H from NAD(P)<sup>+</sup> by catalyzing the oxidation of  $\beta$ -D-glucose to D-glucono-1,5-lactone. Note that D-glucono-1,5-lactone is easily hydrolyzed to gluconic acid, lowering the pH of the reaction.

Codexis offers two engineered GDHs: GDH-105 and CDX-901. CDX-901 has a specific activity of  $\geq 50$  U/mg and is more cost-effective. GDH-105 has a specific activity of  $\geq 44$  U/mg and can operate at a wider pH and temperature range.

### ADDITIONAL PRODUCT INFORMATION

- Off-the-shelf lead times are generally 5 – 7 days after PO receipt. Made-to-order batch lead times may vary.
- Codex<sup>®</sup> enzymes are engineered for enhanced selectivity, activity, substrate range and solvent, and temperature stability compared to natural enzymes.
- Codex<sup>®</sup> Screening Kits contain a carefully selected subset of Codex<sup>®</sup> enzyme libraries having moderate to high activity and selectivity on a range of substrates. These kits are ideal to quickly determine feasibility and will often provide an enzyme that is suitable to prepare the initial kilogram of product.
- All enzymes in Codex<sup>®</sup> Screening Kits are stocked to a minimum of a 50 – 100g quantity level to enable rapid product scale-up.
- Codex<sup>®</sup> Panels may be screened to provide data to generate improved enzymes using the CodeEvolver<sup>®</sup> technology platform.
- Codexis offers enzymes for sustainable manufacturing in addition to those listed above.

For further information, please contact us at: [sales@codexis.com](mailto:sales@codexis.com).

**CODEXIS<sup>®</sup>**

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