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ANALYTICAL
PRODUCTS



NZYTEch's Profile

Customers are NZYTEch first priority. Our mission is to provide the scientific community and the industry with a wide range of first class quality products & services at very competitive prices. Our strong commitment and investment in science is directed to develop, manufacture and market solutions that simplify, accelerate and improve life sciences research. NZYTEch aims to keep a reputation in the fields of Molecular Biology, Carbohydrate-Active Enzymes (CAZymes) and Food and Feed Analysis, through the provision of Analytical Test Kits and Enzymes. We work passionately to achieve our goals. Individually or in collaboration with research groups in both academia and industry, we are continuously developing innovative products and services in our main areas of expertise, aiming to meet the highest standards for laboratory research and industrial analysis. We intend to serve diligently the scientific community and to provide satisfying solutions to customers worldwide. NZYTEch is an ISO 9001:2008 certified company and one of the world's few producers of CAZymes and enzymatic test kits.

In this catalogue, you will find a wide range of products for application in both Research and Analysis. Our products are designed to work in a diverse number of industrial sectors ensuring highest performance at an affordable price. We are continuously expanding our product portfolio to meet the most challenging applications.



Online Store

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Online Product Support

Product Brochures, MSDS and our latest catalogues are available to download online.



News

Check out for our new releases, the latest promotions or offers.
See where you can meet us in fairs/congresses.

@ a glance

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OEM & Bulk solutions

Ever since its foundation, in 2008, NZYTech has been viewed as a reliable partner in research, development and production of Carbohydrate-Active Enzymes (CAZymes), Molecular Biology and Food Analytical Products. Alongside the increase of our products portfolio, we are responding to an increased demand for OEM and Bulk quantities directed to special clients requiring larger amounts of products.

Our productive capability allows us to offer clients specific requirements on product presentation. Private labelling and packaging arrangements are also possible.

Quality Management

NZYTech has a facility has a quality management system certified by ISO 9001:2008. We are continuously improving the excellence of our operational and quality systems. All stages of our production lines are closely monitored and controlled using the highest quality standards.



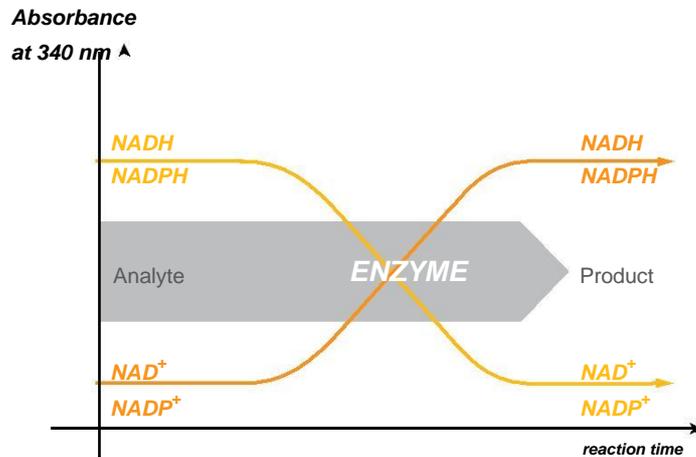
Analytical test kits

Acetaldehyde	Glutamine
Acetic acid	Lactic acids
Ammonia	Malic acids
Arginine	Pyruvic acid
Ethanol	Sucrose
Fructose	Sulfite
Glucose	Urea

Principles & Features

NZYTech test kits are based on enzymatic reactions and performed using spectrophotometric methods.

UV tests The principle of enzymatic tests is based on the $\text{NAD(P)}^+/\text{NAD(P)H}$ system. The enzymes used in these analytical kits produce or consume NAD(P)H , which strongly absorbs the UV radiation at 340 nm (extinction coefficient of $6300 \text{ M}^{-1} \text{ cm}^{-1}$).



Colorimetric tests

The principle of enzymatic tests based on a chromogenic reaction is the formation of a coloured compound, absorbing in the visible region of the electromagnetic spectrum. The coloured compound results from the interaction between the product of a first enzymatic reaction and a chromogenic compound. In this case, the concentration of the analyte must be determined by using a standard curve.



- > Endpoint analysis
- > Easy to use, simple protocols
- > Rapid analysis
- > Accuracy and precision
- > Safe to the operator >
- Standards included

Required material

Spectrophotometer
Micropipettes set with disposable plastic tips to accurately dispense volumes from 20 μL to 1000 μL
Cuvettes
Basic filtering or other simple sample treatment device

Applications & Benefits

Analytical test kits

Kit	Food industry	Feed industry	Wine industry	Brewing industry	Dairy industry	Other applications	Benefits of NZYTech Analytical kits
Acetaldehyde			•	•	•	•	<ul style="list-style-type: none"> - Easy to use - Stable AIDH suspension, no waste - Stable reagents
Acetic acid	•	•	•	•	•	•	<ul style="list-style-type: none"> - Stable ACS suspension, no waste - Prevention of tannin inhibition (PVP included) - Stable reagents
Ammonia	•	•	•		•	•	<ul style="list-style-type: none"> - Very rapid reaction - Stable GDH suspension - Tablet format for higher stability
L-Arginine/Urea/Ammonia			•			•	<ul style="list-style-type: none"> - Very rapid reaction - Stable enzyme suspensions - Tablet format for higher stability
Ethanol	•		•	•		•	<ul style="list-style-type: none"> - Rapid reaction - Stable AIDH suspension, no waste - Stable reagents - Rapid reactions
D-Fructose/D-Glucose	•	•	•	•	•	•	<ul style="list-style-type: none"> - Prevention of tannin inhibition (PVP included) - Stable reagents
D-Glucose GOD-POD	•	•	•	•	•	•	<ul style="list-style-type: none"> - Simple colorimetric method - Stable reagents
D-Glucose HK	•	•	•	•	•	•	<ul style="list-style-type: none"> - Rapid reactions - Prevention of tannin inhibition (PVP included) - Stable reagents
L-Glutamine/Ammonia	•					•	<ul style="list-style-type: none"> - Very rapid reaction - Stable enzyme suspensions - Tablet format for higher stability
D-Lactic acid	•		•		•	•	<ul style="list-style-type: none"> - Rapid reaction - Stable reagents
L-Lactic acid	•		•		•	•	<ul style="list-style-type: none"> - Rapid reaction - Stable reagents
D-/L-Lactic acid	•		•		•	•	<ul style="list-style-type: none"> - Rapid reaction - Stable reagents
D-Malic acid	•		•				<ul style="list-style-type: none"> - Very rapid reaction - Stable D-MDH suspension, no waste - Stable reagents
L-Malic acid	•		•			•	<ul style="list-style-type: none"> - Very rapid reaction - Prevention of tannin inhibition (PVP included) - Stable enzyme suspensions
Pyruvic acid				•	•	•	<ul style="list-style-type: none"> - Very rapid reaction - Stable D-LDH suspension, no waste - Stable reagents
Sucrose/D-Fructose/D-Glucose	•	•	•	•			<ul style="list-style-type: none"> - Rapid reaction - Prevention of tannin inhibition (PVP included) - Stable reagents
Sulfite	•		•	•			<ul style="list-style-type: none"> - Stable enzyme suspensions - Tablet format for higher stability
Urea/Ammonia	•	•	•		•	•	<ul style="list-style-type: none"> - Very rapid reaction - Stable enzyme suspensions - Tablet format for higher stability

Analytical test kits

Acetaldehyde, UV method

Enzymatic method for the determination of acetaldehyde. Based on the spectrophotometric measurement of NADH produced through the reaction, after addition of aldehyde dehydrogenase (AIDH).



Applications

Alcoholic beverages (wine, beer, champagne)
Bread, coffee, fruit and vegetable products
Biological cultures and biological samples

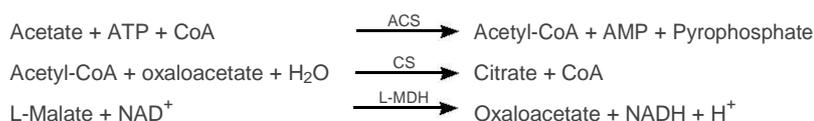


> Stable AIDH suspension
> Suitable for manual and micro volume formats

Catalogue No: AK00051
Kit size: 50 tests (for 2.52 mL reaction)
Range: 0.25-200 mg/L
Detection limit: 0.176 mg/L

Acetic acid, UV method

Enzymatic method for the determination of acetic acid. Based on the spectrophotometric measurement of NADH produced through the coupled reactions, after addition of Acetyl-CoA synthetase (ACS), Citrate synthase (CS) and L-malate dehydrogenase (L-MDH).



Applications

Alcoholic beverages (wine, beer, champagne)
Bread, coffee, meat and vegetable products
Biological cultures and biological samples



> Prevention of tanins inhibition

Catalogue No: AK00081
Kit size: 53 tests (for 2.84 mL reaction)
Range: 0.15-200 mg/L
Detection limit: 0.14 mg/L

Ammonia, UV method

Enzymatic method for the determination of ammonia (main inorganic source of Yeast Available Nitrogen, YAN). Based on the spectrophotometric measurement of NADPH consumed through the reaction, after addition of glutamate dehydrogenase (GIDH).



Applications

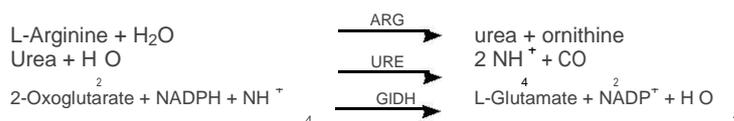
Grape juice/must and wine
Fruit juice
Biological cultures and biological samples

Catalogue No: AK00091
Kit size: 96 tests (for 2.62 mL reaction)
Range: 10-70 mg/L
Detection limit: 0.07 mg/L



L-Arginine/Urea/ Ammonia, UV method

Enzymatic method for the determination of L-arginine, urea and ammonia (Yeast Available Nitrogen, YAN). Based on the spectrophotometric measurement of NADPH consumed through the coupled reactions, after addition of arginase (ARG), urease (URE) and glutamate dehydrogenase (GIDH).



Applications

Grape juice, wine and wine must
Biological cultures and biological samples



> Nitrogen determination
without formaldehyde

Catalogue No: AK00171
Kit size: 50 tests of each (for 2.66 mL reaction)
Range: 50-400 mg/L L-arginine
20-140 mg/L urea
10-70 mg/L ammonia
Detection limit: 0.37 mg/L L-arginine
0.13 mg/L urea
0.07 mg/L ammonia

Ethanol, UV method

Enzymatic method for the determination of ethanol. Based on the spectrophotometric measurement of NADH produced through the reactions, after addition of alcohol dehydrogenase (ADH) and aldehyde dehydrogenase (AIDH).



Applications

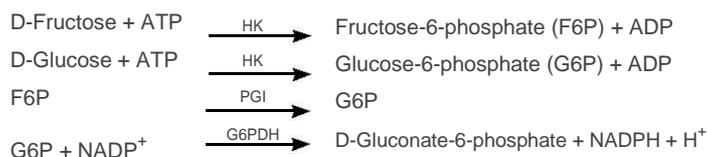
Alcoholic beverages (wine, beer, champagne)
Biological cultures and biological samples

Catalogue No: AK00061
Kit size: 60 tests (for 2.54 mL reaction)
Range: 0.12-120 mg/L
Detection limit: 0.093 mg/L

Sucrose/D-Fructose/ D-Glucose, UV method



Enzymatic method for the determination of sucrose, D-fructose and D-glucose. Based on the spectrophotometric measurement of NADPH produced through the coupled reactions, after addition of hexokinase (HK), phosphoglucose isomerase (PGI) and glucose-6-phosphate dehydrogenase (G6PDH). The D-glucose concentration is determined before and after hydrolysis of sucrose by β -fructosidase. The sucrose content is calculated from the difference in D-glucose concentrations before and after hydrolysis by β -fructosidase.



hydrolysis of sucrose (at pH 4.6)



Applications

Wine, beer
Fruit juices, milk, dietetic foods, bread, jam,
honey, ice creams, fruit and vegetables
Pharmaceuticals, cosmetics and biological
samples

Catalogue No: AK00201
Kit size: 100 tests of each
Range: 20-800 mg/L
Detection limit: 1.40 mg/L

D-Fructose/ D-Glucose, UV method

Enzymatic method for the determination of D-fructose and D-glucose. Based on the spectrophotometric measurement of NADPH produced through the coupled reactions, after addition of hexokinase (HK), phosphoglucose isomerase (PGI) and glucose-6-phosphate dehydrogenase (G6PDH).



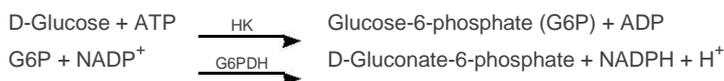
Applications

Alcoholic beverages (wine and beer)
Bread, coffee, meat and vegetable products
Biological cultures and biological samples

Catalogue No: AK00041
Kit size: 110 tests/each
(for 2.34 mL reaction)
Range: 2-800 mg/L
Detection limit: 0.66 mg/L

D-Glucose HK, UV method

Enzymatic method for the determination of D-glucose. Based on the spectrophotometric measurement of NADPH produced through the coupled reactions, after addition of hexokinase (HK) and glucose-6-phosphate dehydrogenase (G6PDH).



Applications

Wine
Fruit juice
Pharmaceuticals and biological samples

Catalogue No: AK00031
Kit size: 110 tests
(for 2.32 mL reaction)
Range: 2-800 mg/L
Detection limit: 0.66 mg/L

D-Glucose (GOD-POD), colorimetric method

Enzymatic colorimetric method for the determination of D-glucose. Based on the combined action of glucose oxidase (GOD) and peroxidase (POD).



Applications

Grape juice, wine and wine must
Biological cultures and biological samples

Catalogue No: AK00161
Kit size: 660 tests
(for 3.10 mL reaction)
Range: 100-1000 mg/L
Detection limit: 100 mg/L

L-Glutamine/ Ammonia, UV method

Enzymatic method for the determination of L-glutamine and ammonia. Based on the spectrophotometric measurement of NADPH consumed through the combined action of glutaminase (GLT) and glutamate dehydrogenase (GIDH).



Applications

Culture media
Dietary supplements, fruit and vegetables

Catalogue No: AK00111
Kit size: 50 tests of each (for 2.34 mL reaction)
Range: 10-400 mg/L L-glutamine
 10-70 mg/L ammonia
Detection limit: 0.54 mg/L L-glutamine
 0.07 mg/L ammonia

D-Lactic acid, UV method

Enzymatic method for the determination of D-lactic acid. Based on the spectrophotometric measurement of NADH formed through the combined action of D-lactate dehydrogenase (D-LDH) and D-alanine aminotransferase (D-ALT/D-GPT).



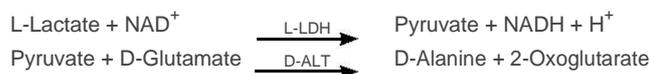
Applications

Dairy products (cheese, milk, cream yogurt) Wine,
vinegar, fruit and vegetable products Cosmetics,
pharmaceutical and biological samples

Catalogue No: AK00121
Kit size: 50 tests (for 2.24 mL reaction)
Range: 0.33-300 mg/L
Detection limit: 0.30 mg/L

L-Lactic acid, UV method

Enzymatic method for the determination of L-lactic acid. Based on the spectrophotometric measurement of NADH formed through the combined action of L-lactate dehydrogenase (L-LDH) and D-alanine aminotransferase (D-ALT/D-GPT).



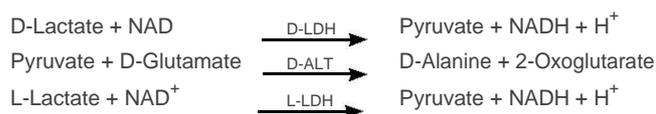
Applications

Fruit juice and dairy products
Pharmaceuticals and biological samples
Animal feed

Catalogue No: AK00131
Kit size: 50 tests (for 2.24 mL reaction)
Range: 0.2-300 mg/L
Detection limit: 0.30 mg/L

D-/L-Lactic acid, UV method

Enzymatic method for the determination of D- and L-lactic acids. Based on the spectrophotometric measurement of NADH formed through the combined action of D-lactate dehydrogenase (D-LDH), L-lactate dehydrogenase (L-LDH) and D-alanine aminotransferase (D-ALT/D-GPT).



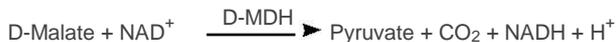
Applications

Dairy products
Biological cultures and biological samples

Catalogue No: AK00141
Kit size: 50 tests of each (for 2.24 mL reaction)
Range: 0.2-300 mg/L
Detection limit: 0.30 mg/L

**D-Malic acid,
UV method**

Enzymatic method for the determination of D-malic acid. Based on the spectrophotometric measurement of NADH formed through the action of D-malate dehydrogenase (D-MDH).



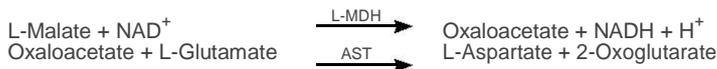
Applications

Wine, beer
Fruit juices
Pharmaceuticals and biological samples

Catalogue No: AK00021
Kit size: 100 tests (for 2.42 mL reaction)
Range: 0.25-400 mg/L
Detection limit: 0.26 mg/L

**L-Malic acid,
UV method**

Enzymatic method for the determination of L-malic acid. Based on the spectrophotometric measurement of NADH formed through the combined action of L-malate dehydrogenase (L-MDH) and aspartate aminotransferase (AST).



Applications

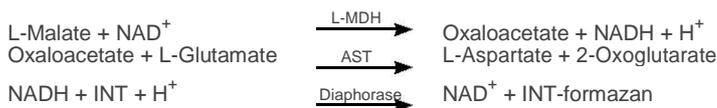
Wine, beer
Fruit and vegetable products
Cosmetics, pharmaceutical and biological samples

Catalogue No: AK00011
Kit size: 58 tests (for 2.34 mL reaction)
Range: 0.25-300 mg/L
Detection limit: 0.25 mg/L

**L-Malic acid,
colorimetric method**



Enzymatic and rapid colorimetric method for the determination of L-malic acid. Based on the spectrophotometric measurement of INT-formazan formed through the combined action of L-malate dehydrogenase (L-MDH), aspartate aminotransferase (AST) and diaphorase.



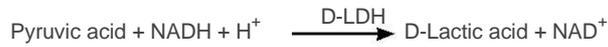
Applications

Wine, beer
Fruit and vegetable products
Cosmetics, pharmaceutical and biological samples

Catalogue No: AK00191
Kit size: 5 x 10 tests
Range: 8-800 mg/L
Detection limit: 8 mg/L

Pyruvic acid, UV method

Enzymatic method for the determination of pyruvic acid. Based on the spectrophotometric measurement of NADH consumed through the action of D-lactate dehydrogenase (D-LDH).



Applications

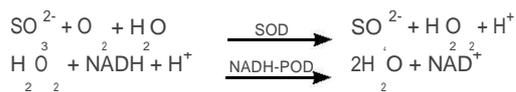
Wine, beer
Fruit juices, cheese
Biological samples

Catalogue No: AK00151
Kit size: 100 tests (for 2.82 mL reaction)
Range: 0.15-400 mg/L
Detection limit: 0.39 mg/L



Sulfite, UV method

Enzymatic method for the determination of sulfite. Based on the spectrophotometric measurement of NADH consumed through the combined action of sulfite oxidase (SOD) and NADH-peroxidase (NADH-POD).



Applications

Dairy products
Biological cultures and biological samples



Catalogue No: AK00071
Kit size: 30 tests of each (for 3.06 mL reaction)
Range: 0.25-300 mg/L
Detection limit: 0.25 mg/L

Urea/Ammonia, UV method

Enzymatic method for the determination of urea and ammonia. Based on the spectrophotometric measurement of NADPH consumed through the combined reactions, after addition of urease (URE) and glutamate dehydrogenase (GIDH).



Applications

Grape juice/must and wine
Fruit juices
Pharmaceuticals and biological samples



> Stable enzyme suspensions

Catalogue No: AK00101
Kit size: 50 tests of each (for 2.64 mL reaction)
Range: 1.5-140 mg/L urea
10-70 mg/L ammonia
Detection limit: 0.13 mg/L urea
0.07 mg/L ammonia

Vintage Pack NZYTech has created the NZYTech Vintage Pack in order to fulfill our winemaker customer needs. The NZYTech Vintage Pack, dedicated to the wine industry, is composed by 4 analytical test kits enabling the determination of 7 important analytes during the control of the vinification process.

Applications

Grape juice, must and wine

Catalogue No: AK00181
Pack size: 371 tests (total)



Pack Composition

- > D-Fructose/D-Glucose
- > L-Malic acid
- > Acetic acid
- > L-Arginine/Urea/Ammonia

Analytical
enzymes



Enzyme quick guide

Selection guide

Enzyme	EC	Symbol	Substrate	Cofactor
Acetyl-CoA syntethase	6.2.1.1	ACS	acetate	-
D-Alanine aminotransferase	2.6.1.21	D-ALT/D-GPT	pyruvate D-glutamate	-
Alcohol dehydrogenase	1.1.1.1	ADH	alcohols	NAD ⁺
Aldehyde reductase YqhD	1.1.1.21	YqhD	aldehydes	NADPH
Arginase	3.5.3.1	ARG	L-arginine	-
Aspartate aminotransferase	2.6.1.1	AST/GOT	L-aspartate L-glutamate	-
Citrate synthase	4.1.3.7	CS	oxaloacetate acetyl CoA	-
 Diaphorase	1.8.1.4	Diaph	NADH electron acceptor	-
Glucokinase	2.7.1.2	GK	D-glucose ATP	-
Glucose-6-phosphate dehydrogenase	1.1.1.49	G6PDH	glucose-6-phosphate	NADP ⁺
Glucose-6-phosphate isomerase	5.3.1.9	G6PI	fructose-6-phosphate glucose-6-phosphate	-
Glutamate dehydrogenase	1.4.1.4	GDH	2-oxoglutarate	NADPH
Glutaminase	3.5.1.2	GLT	glutamine	-
 Glutathione reductase	1.8.1.7	GR	oxidized glutathione	NADPH
 Invertase	3.2.1.26	INV	sucrose	-
Lactaldehyde dehydrogenase	1.2.1.22	AIDH	lactaldehyde lactate	NAD ⁺
D-Lactate dehydrogenase	1.1.1.28	D-LDH	D-lactate	NAD ⁺
D-Malate dehydrogenase	1.1.1.83	D-MDH	D-malate	NAD ⁺
L-Malate dehydrogenase	1.1.1.37	L-MDH	L-malate	NAD ⁺
NADH peroxidase	1.11.1.1	NADH-POD	NADH hydrogen peroxide	-
Sulfite oxidase molybdenum centre domain	1.8.3.1	SO	sulfite	-

Analytical Enzymes

Acetyl-CoA synthetase, *B. subtilis*

Recombinant Acetyl-CoA synthetase (EC 6.2.1.1) is purified from a modified *E. coli* strain. Acetyl-CoA synthetase is an enzyme involved in the metabolism of carbon sugars. It is in the ligase class of enzymes, meaning that it catalyzes the formation of a new chemical bond between two large molecules. The NZYTech enzyme is provided in 3.2 M ammonium sulphate.

Storage temperature: Acetyl-CoA synthetase should be stored at 4 °C and will remain stable up to 3 years if stored as specified.

Temperature and pH optimum/stability: The optimum pH and temperature are 8.4 and 37 °C, respectively.

Activity: 195 U/mL

Catalogue No: AE00081

Pack size: 250 U

D-Alanine, aminotransferase *B. subtilis*

D-Alanine aminotransferase (EC 2.6.1.21) is purified from a recombinant *E. coli* strain. This enzyme catalyses the transfer of an amino group from alanine to α -ketoglutarate, thus forming pyruvate and glutamate. The enzyme is provided in 3.2 M ammonium sulphate.

Storage temperature: D-Alanine aminotransferase should be stored at 4 °C and will remain stable up to 3 years if stored as specified.

Temperature and pH optimum/stability: The optimum pH and temperature are 7.5 and 25 °C, respectively.

Activity: 1444 U/mL

Catalogue No: AE00141

Pack size: 2500 U

Alcohol dehydrogenase, *E. coli*

Alcohol dehydrogenase (ADH; EC 1.1.1.1) is an enzyme occurring in many organisms facilitating the interconversion between primary or secondary alcohols and aldehydes or ketones, respectively, with the reduction of NAD^+ to NADH. The enzyme is provided in 3.2 M ammonium sulphate.

Storage temperature: Alcohol dehydrogenase should be stored at 4 °C and will remain stable up to 3 years if stored as specified.

Temperature and pH optimum/stability: The optimum pH and temperature are 8.5 and 25 °C, respectively.

Activity: 150 U/mL

Catalogue No: AE00131

Pack size: 1000 U

Aldehyde
reductase,
E. coli

YqhD from *E. coli* is a homodimeric protein, localized in the cytoplasm. Each monomer has a two-domain structure, one domain that binds the cofactor NADPH and the other the catalytic metal Zn²⁺. This enzyme belongs to the aldo-keto reductase superfamily, a group of enzymes responsible for a wide array of biological functions. The enzyme is provided in 3.2 M ammonium sulphate.

Storage temperature: Aldehyde reductase YqhD should be stored at 4 °C and will remain stable up to 3 years if stored as specified.

Temperature and pH optimum/stability: The optimum pH and temperature are 7.0 and 25 °C, respectively.

Catalogue No: AE00021

Pack size: 2.0 mg

Arginase,
H. sapiens

Arginase (L-arginine amidinohydrolase, EC 3.5.3.1) is a manganese-containing enzyme that catalyses the hydrolysis of L-arginine to L-ornithine and urea. NZYTEch's arginase comprises the recombinant human liver enzyme expressed and purified from a modified *E. coli* strain. The enzyme is provided in 2.5 M lithium sulphate.

Storage temperature: Arginase should be stored at 4 °C and will remain stable up to 3 years if stored as specified.

Temperature and pH optimum/stability: The optimum ranges of pH and temperature are 10-11 and 25-40 °C, respectively.

Activity: 1950 U/mL

Catalogue No: AE00211

Pack size: 1950 U

Aspartate
aminotransferase,
E. coli

Aspartate aminotransferase (AST; EC 2.6.1.1) is purified from a recombinant *E. coli* strain. Aspartate aminotransferase, formerly known as L-glutamic-oxaloacetic transaminase, is a pyridoxal phosphate-dependent enzyme present in liver and muscle that catalyses the reversible transfer of an amine group from glutamic acid to oxaloacetic acid, forming alpha-ketoglutaric acid and aspartic acid. The enzyme is provided in 3.2 M ammonium sulphate.

Storage temperature: AST should be stored at 4 °C and will remain stable up to 3 years if stored as specified.

Temperature and pH optimum/stability: The optimum pH and temperature are 8.5 and 25 °C, respectively.

Activity: 500 U/mL

Catalogue No: AE00061

Pack size: 5000 U

Citrate
synthase,
E. coli

Citrate synthase (E.C. 2.3.3.1) is purified from a recombinant *E. coli* strain. Citrate synthase catalyses the condensation reaction of acetyl-CoA and oxaloacetate producing citrate. The enzyme is provided in 3.2 M ammonium sulphate.

Storage temperature: Citrate synthase should be stored at 4 °C and will remain stable up to 3 years if stored as specified.

Temperature and pH optimum/stability: The optimum pH and temperature are 8.0 and 25 °C, respectively.

Activity: 186 U/mL

Catalogue No: AE00041

Pack size: 2500 U

Diaphorase,
E. coli



Diaphorase or dihydrolipoyl dehydrogenase (EC 1.8.1.4) is a flavoprotein enzyme capable of oxidizing the reduced form of NAD⁺ (NADH). This lipoamide dehydrogenase is a component of the glycine cleavage system, as well as of the alpha-ketoacid dehydrogenase complexes. It binds one FAD per protein subunit. The enzyme is provided in 3.2 M ammonium sulphate.

Storage temperature: Diaphorase should be stored at 4 °C and will remain stable up to 3 years if stored as specified.

Temperature and pH optimum/stability: The optimum pH and temperature are 9.0 and 25 °C, respectively.

Activity: 174 U/mL

Catalogue No: AE00231

Pack size: 1000 U

Glucokinase,
E. coli

Escherichia coli glucokinase (EC 2.7.1.2) is an intracellular enzyme responsible for the phosphorylation of glucose to glucose-6-phosphate by using ATP. The enzyme reveals a dimeric structure and presents a similar fold to human and yeast hexokinases. The NZYTech's enzyme is provided in 3.2 M ammonium sulphate.

Storage temperature: Glucokinase should be stored at 4 °C, remaining stable up to 3 years under these storage conditions.

Temperature and pH optimum/stability: The optimum pH and temperature are 7.5 and 25 °C, respectively.

Activity: 100 U/mL

Catalogue No: AE00171

Pack size: 1400 U

Glucose-6-
phosphate
dehydrogenase,
E. coli

Glucose-6-phosphate dehydrogenase (G6PDH; EC 1.1.1.49) is purified from a recombinant *E. coli* strain. G6PDH is a cytosolic enzyme that converts glucose-6-phosphate into 6-phosphoglucono-δ-lactone, the rate-limiting step of the pentose phosphate pathway. The enzyme is supplied in 3.2 M ammonium sulphate suspension.

Storage temperature: Glucose-6-phosphate dehydrogenase should be stored at 4 °C and will remain stable up to 3 years if stored as specified.

Temperature and pH optimum/stability: The optimum pH and temperature are 7.2 and 25 °C, respectively.

Activity: 1000 U/mL

Catalogue No: AE00111

Pack size: 5000 U

Glucose-6-phosphate isomerase, *E. coli*

Glucose-6-phosphate isomerase (GPI; EC. 5.3.1.9) alternatively known as phosphoglucose isomerase or phosphohexose isomerase, is a dimeric enzyme that catalyzes the reversible isomerization of D-glucose-6-phosphate and D-fructose-6-phosphate. GPI also catalyzes the anomerization of D-glucose-6-phosphate. The enzyme is provided in 3.2 M ammonium sulphate.

Storage temperature: Glucose-6-P isomerase should be stored at 4 °C and will remain stable up to 3 years if stored as specified.

Temperature and pH optimum/stability: The optimum pH and temperature are 7.5 and 40 °C, respectively.

Activity: 2440 U/mL

Catalogue No: AE00101

Pack size: 5000 U

Glutamate dehydrogenase, *E. coli*

Recombinant Glutamate dehydrogenase (EC 1.4.1.4) is purified from a modified *E. coli* strain. Glutamate dehydrogenase is an enzyme that catalyzes the conversion of glutamate to α -ketoglutarate, and vice versa (using NADPH). The enzyme is supplied in 2.5 M lithium sulphate suspension.

Storage temperature: Glutamate dehydrogenase should be stored at 4 °C and will remain stable up to 3 years if stored as specified.

Temperature and pH optimum/stability: The optimum pH and temperature are 7.5 and 25 °C, respectively.

Activity: 330 U/mL

Catalogue No: AE00051

Pack size: 3300 U

Glutaminase, *E. coli*

Escherichia coli glutaminase (EC 3.5.1.2) is an amidohydrolase which generates glutamate from glutamine. The enzyme is provided in 2.5 M lithium sulphate.

Storage temperature: Glutaminase should be stored at 4 °C, remaining stable up to 3 years under these storage conditions.

Temperature and pH optimum/stability: The optimum pH and temperature are 4.9 and 37 °C, respectively.

Activity: 2500 U/mL

Catalogue No: AE00071

Pack size: 2500 U

Glutathione reductase, *E. coli*



Glutathione reductase (EC 1.6.4.2) is an ubiquitous homodimeric enzyme that catalyses the NADPH-dependent reduction of oxidized glutathione. It contains one FAD per protein subunit and shows Km values of 4-9 μ M for NADPH and of 55-65 μ M for oxidized glutathione. The enzyme is provided in 3.2 M ammonium sulphate.

Storage temperature: Glutathione reductase should be stored at 4 °C, remaining stable up to 3 years under these storage conditions.

Temperature and pH optimum/stability: The optimum pH and temperature are 4.5 and 25 °C, respectively.

Activity: 98 U/mg

Catalogue No: AE00221

Pack size: 500 U

Invertase,
S. cerevisiae



Recombinant invertase (β -fructofuranosidase; EC 3.2.1.26) is purified from a modified *E. coli* strain. Invertase is an enzyme that catalyzes the hydrolysis of sucrose. The enzyme is provided in 3.2 M ammonium sulphate.

Storage temperature: Invertase should be stored at 4 °C and will remain stable up to 3 years if stored as specified.

Temperature and pH optimum/stability: The optimum pH and temperature are 4.6 and 40 °C, respectively.

Activity: 7600 U/mL

Catalogue No: AE00241

Pack size: 100 kU

Lactaldehyde
dehydrogenase,
E. coli

Lactaldehyde dehydrogenase (E.C. 1.2.1.22) from *E. coli* (aldA gene product, P25553) is a homotetrameric protein, localized in the cytoplasm. Each monomer is composed by a catalytic domain, a cofactor NAD⁺ binding domain and an oligomerization domain. This enzyme belongs to the superfamily of NAD⁺ or NADP⁺ dependent enzymes that catalyze the oxidation of aldehydes to the corresponding carboxylic acids. The enzyme is provided in 3.2 M ammonium sulphate.

Storage temperature: Lactaldehyde dehydrogenase should be stored at 4 °C and will remain stable up to 3 years if stored as specified.

Temperature and pH optimum/stability: The optimum pH and temperature are 9.5 and 25 °C, respectively.

Catalogue No: AE00031

Pack size: 4.0 mg

D-Lactate
dehydrogenase,
L. mesenteroides

Recombinant D-lactate dehydrogenase (EC 1.1.1.28) is purified from a modified *E. coli* strain. D-Lactate dehydrogenase is an enzyme that catalyzes specifically the reduction of D-lactate to pyruvate with concomitant oxidation of NAD⁺ to NADH. The enzyme is provided in 3.2 M ammonium sulphate.

Storage temperature: D-Lactate dehydrogenase should be stored at 4 °C and will remain stable up to 3 years if stored as specified.

Temperature and pH optimum/stability: The optimum pH and temperature are 7.0 and 37 °C, respectively.

Activity: 8900 U/mL

Catalogue No: AE00121

Pack size: 22 kU

D-Malate
dehydrogenase,
E. coli

Recombinant D-malate dehydrogenase (decarboxylating; EC 1.1.1.83) is purified from a modified *E. coli* strain. D-Malate dehydrogenase is an enzyme that catalyzes the conversion of malate into pyruvate and carbon dioxide (using NAD⁺). This enzyme belongs to the family of oxidoreductases, specifically those acting on the CH-OH group of donor with NAD⁺ or NADP⁺ as acceptor. The enzyme is provided in 3.2 M ammonium sulphate.

Storage temperature: D-Malate dehydrogenase should be stored at 4 °C and will remain stable up to 3 years if stored as specified.

Temperature and pH optimum/stability: The optimum pH and temperature are 8.0 and 25 °C, respectively.

Activity: 30 U/mL

Catalogue No: AE00151

Pack size: 200 U

L-Malate
dehydrogenase,
E. coli

Recombinant L-malate dehydrogenase (EC 1.1.1.37) is purified from a modified *E. coli* strain. Malate dehydrogenase is an enzyme of the citric acid cycle that catalyzes the reversible conversion of malate into oxaloacetate (using NAD⁺) (texto apagado aqui). The enzyme is provided in 3.2 M ammonium sulphate.

Storage temperature: L-malate dehydrogenase should be stored at 4 °C, remaining stable up to 3 years under these storage conditions.

Temperature and pH optimum/stability: The optimum pH and temperature are 7.5 and 25 °C, respectively.

Activity: 4000 U/mL

Catalogue No: AE00091

Pack size: 50 kU

NADH peroxidase,
S. faecalis

NADH peroxidase (EC 1.11.1.1), systematically designated by NADH : hydrogen-peroxide oxidoreductase, is an enzyme that catalyzes the reversible conversion of NADH and hydrogen peroxide into NAD⁺ and water. The NZYTech NADH peroxidase is the *Streptococcus faecalis* enzyme expressed in *Escherichia coli*. The enzyme is a symmetrical tetramer with a fold similar to those of disulfide oxidoreductases.

Storage temperature: NADH peroxidase should be stored at 4 °C and will remain stable up to 3 years if stored as specified.

Temperature and pH optimum/stability: The optimum pH and temperature are 5.5 and 25 °C, respectively.

Activity: 500 U/mL

Catalogue No: AE00201

Pack size: 500 U

Sulfite oxidase,
H. sapiens

Sulfite oxidase (EC 1.8.3.1) is a homodimeric protein. Each subunit contains a N-terminal domain, with a heme cofactor, and a C-terminal domain, with a molybdopterin cofactor (MoVI). The enzyme catalyzes the oxidation of sulfite to sulfate, which takes place at the molybdenum centre, and is the final reaction in the oxidative degradation of the sulfur amino acids cysteine and methionine. The enzyme is provided in 3.2 M ammonium sulphate.

Storage temperature: Sulfite oxidase should be stored at 4 °C, remaining stable up to 3 years under these storage conditions.

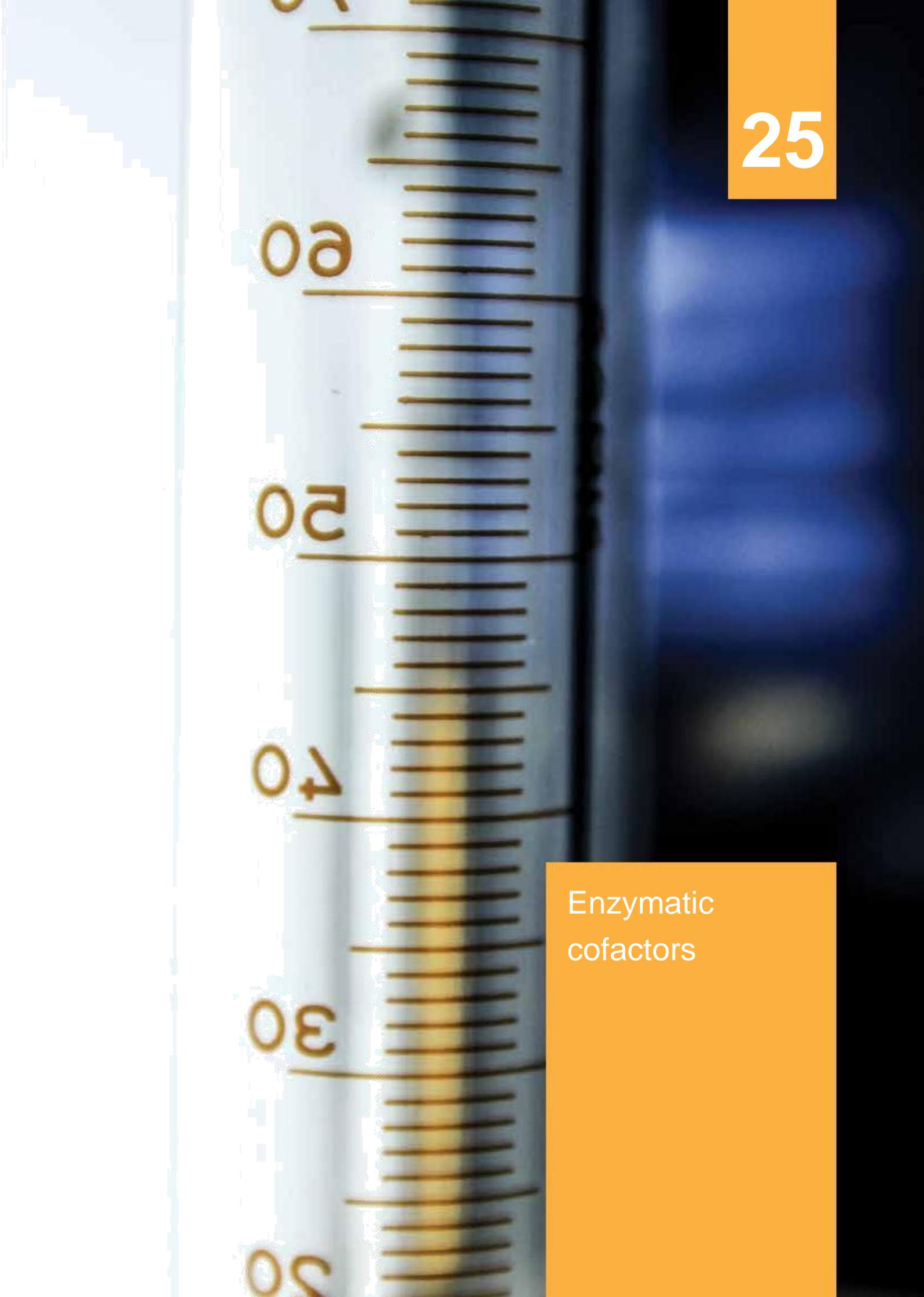
Temperature and pH optimum/stability: The optimum pH and temperature are 8.5 and 25 °C, respectively.

Activity: 1.0 U/mL

Catalogue No: AE00011

Pack size: 2.25 U

Enzymatic
cofactors



Enzymatic cofactors

β -NAD⁺ β -NAD⁺ (β -Nicotinamide adenide dinucleotide)

Catalogue No: AC00011
Pack size: 5 g

β -NADH β -NADH (β -Nicotinamide adenide dinucleotide reduced form)

Catalogue No: AC00041
Pack size: 1 g

β -NADP⁺ β -NADP⁺ (β -Nicotinamide adenide dinucleotide phosphate sodium salt)

Catalogue No: AC00021
Pack size: 1 g

β -NADPH β -NADPH (β -Nicotinamide adenide dinucleotide phosphate reduced form tetrasodium salt)

Catalogue No: AC00031
Pack size: 100 mg



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