DIAGNOSTIC SOLUTIONS
for Enzyme Manufacturers

NEOGEN | Megazyme

DIAGNOSTIC PRODUCTS for Enzyme Manufacturers

A Growing Industry

The importance of enzymes in both industrial processes and scientific research is constantly growing. Measurement of enzyme activity is vital for the effective use and characterisation of enzyme preparations, as well as the development of new enzyme preparations that showcase enhanced properties.

Our Solutions

Our Megazyme range of assay kits, convenient tablet tests and carbohydrate substrates supports a broad range of customer needs and applications including:

- Research & Development
- New Enzyme Discovery
- Product Development & Formulation
- Process Development & Optimization
- Quality Control

Coupled with our exceptional technical support, in-house manufacturing, and value-added service, we are a partner who can support you every step of the way.

Why Choose Megazyme?

Fast, Accurate and Reliable Results

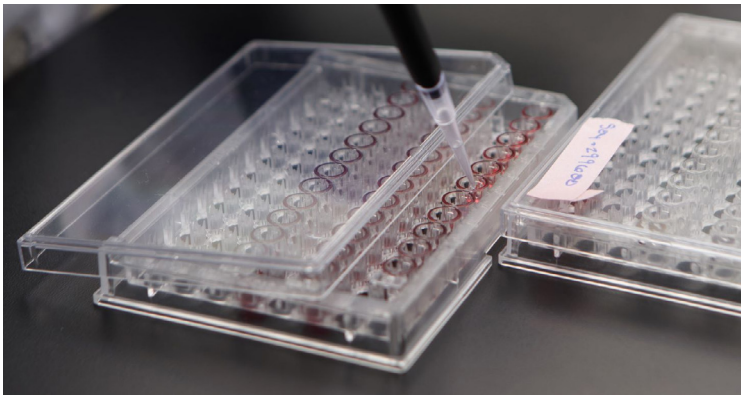
- Experienced with **over 30** years of analytical method innovation.
- Excellent in-house **technical support**.
- **Ultra-pure** enzymes
- **Validated methods**
- **Extensive** range of diagnostic products for a diverse range of analytical needs

A Complete Solution for Enzymatic Analysis

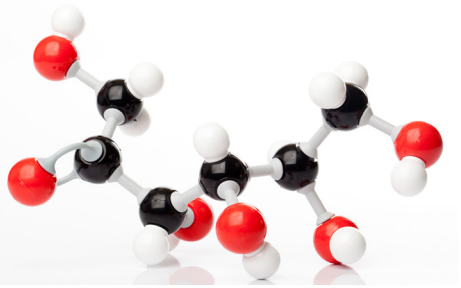
The Megazyme range offers outstanding expertise with excellent solutions for measuring and analysing enzymatic activity. All our products can be used to measure purified enzymes and many products can also be used to measure specific enzyme activities in complex matrices such as animal feed, and raw materials for food preparations, where multiple enzymes can be present together.

We offer our Megazyme range of solutions for the following analytes:

- *endo*-Xylanase
- β-Glucanase & *endo*-Cellulase
- α-Amylase
- β- Amylase & Maltogenic α-amylase
- Pullulanases & Limit Dextrinase
- *endo*-Mannanase
- Protease
- Phytase
- Amyloglucosidase
- Catalase
- Glucuronoyl esterase
- Glucose oxidase



Our Diverse Range



We offer a variety of products to measure key enzymatic activities. Offering fast, accurate and reliable results, our diverse range of enzymatic substrates can be classified into three categories:

- Dyed Substrates
- Assay Kits and Reagents
- Carbohydrate Substrates

Dyed Substrates

Dyed substrates comprise polysaccharides or proteins that contain covalently attached dye components. They are supplied either in powder, liquid or tablet form. As enzymes are assayed, they release dyed fragments, proportional to their enzymatic activity, which can then be calculated using a standard curve provided.

Advantages of dyed substrates:

- Sensitive and easy to use
- Accurate, reliable and robust analysis

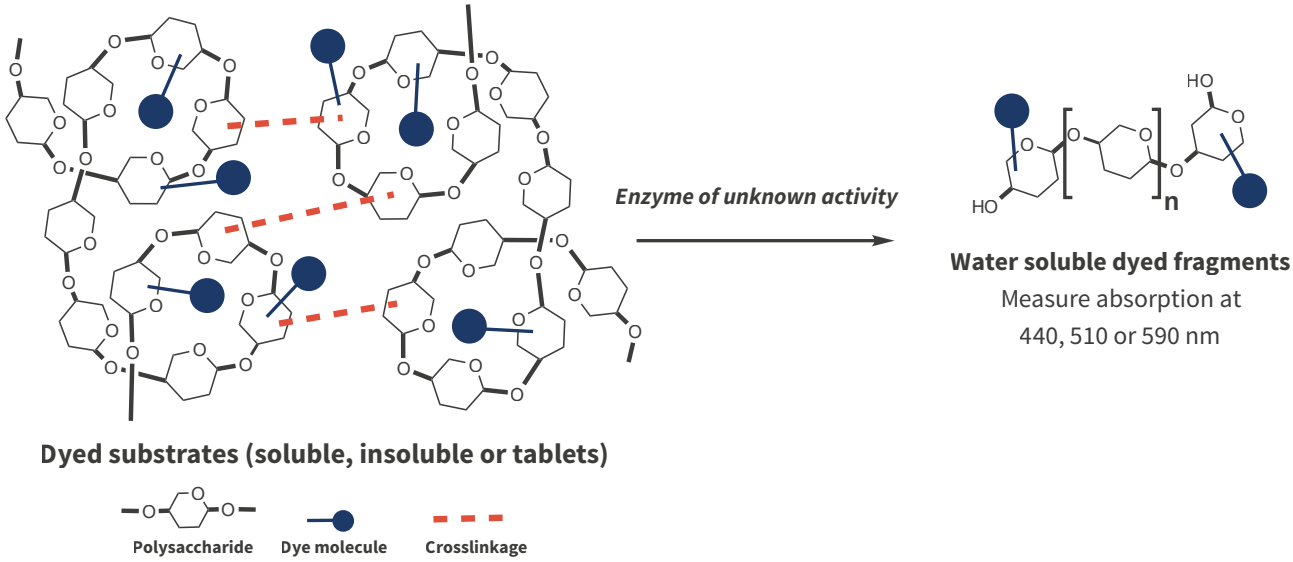


Figure1: Dyed substrates are incubated with enzymes which will hydrolyse them into dyed fragments that can be measured using a UV spectrophotomer. The difference in absorbance against a blank is proportional to the enzyme activity.

Assay Kits and Reagents

The analysis of enzyme activities using our assay kits and reagents is based on solution-based enzyme-coupled assay protocols. The substrate, ancillary enzymes and a control standard are provided in our range of assay kits.

Advantages of assay kits and reagents:

- Sensitive, selective and easy to use.
- High reproducibility level due to chemically defined molecular structure of the substrates.
- Kits are compatible with auto-analyser assays for high-throughput screening.

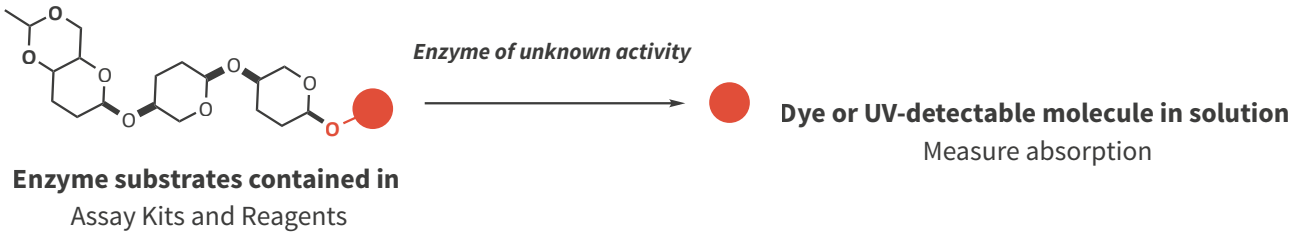


Figure 2: Kits and reagents contain soluble enzyme substrates, that when, reacting with an enzyme either release a dye molecule or a UV-detectable molecule from an enzyme-coupled reaction. These can be detected using a UV spectrophotometer. The difference in absorbance against a blank is proportional to the enzyme activity.

Carbohydrate Substrates

Our diverse range of well-characterised polysaccharides can be used for the assay of carbohydrate-active enzyme activities via reducing sugar assays or by using a viscometer. In addition, our range of ultra-pure oligosaccharides can be used for the assay of enzyme activities using chromatography techniques.

Advantages of carbohydrate substrates:

- Activity measurements on native polysaccharides are highly relevant to “real-world” applications

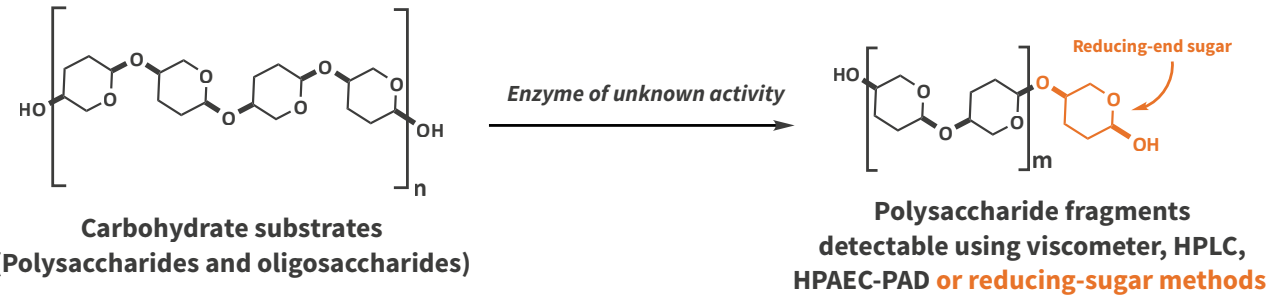
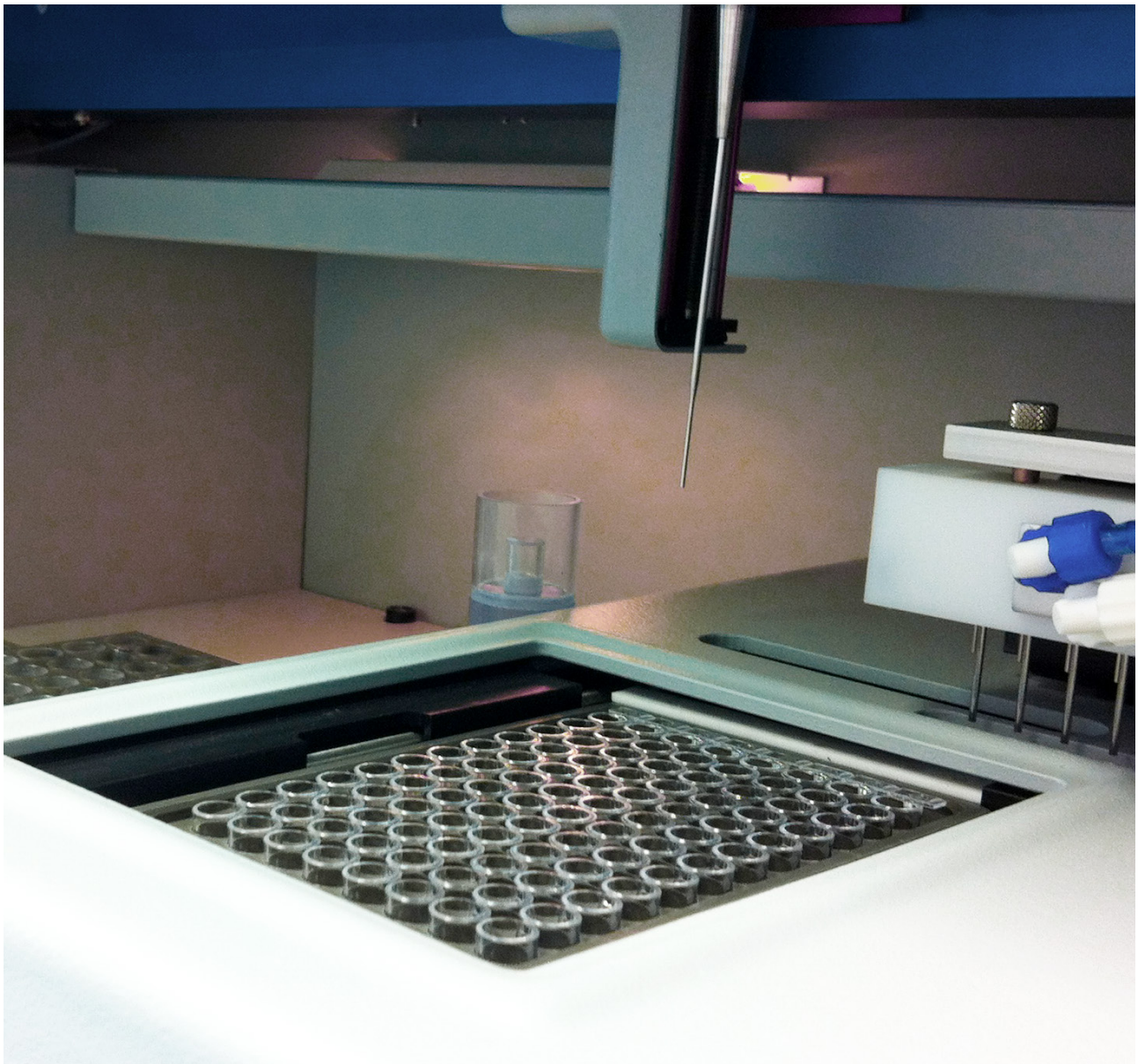


Figure 3: Carbohydrate substrates are incubated with enzymes which will hydrolyse them into smaller fragments that can be detected using viscosimetry, chemistry methods or chromatography.

Commonly used Products in Enzyme Manufacturing

Enzyme Activity	Dyed Substrates	Assay Kits and Reagents	Carbohydrate Substrates
endo-Xylanase	T-XAX T-XYZ	K-XylX6	P-WAXYM P-XYLNBE
β-Glucanase & *endo*-Cellulase	T-CTZ T-CCZ T-BGZ	K-CellG5 K-MBG4	P-BGBM
α-Amylase	T-AMZ S-RSTAR	K-CERA R-CAAR4 R-AMHR4	P-BLDX
β-Amylase & Maltogenic α-amylase	-	K-BETA3 R-BAMR3	O-MAL3
Pullulanase & Limit Dextrinase	T-LDZ S-RPUL	K-PullG6	-
endo-Mannanase	T-MNZ	-	P-GALML
Protease	T-PRAK S-AZCAS	-	-
Phytase	-	K-PHYTASE	-
Amyloglucosidase	-	R-AMGR3	-
Catalase	-	K-CATAL	-
Glucuronoyl esterase	-	K-GEUX3	-
Glucose oxidase	-	K-GLOX	-



Many of our kits can be used with an auto-analyser for high-throughput screening.

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