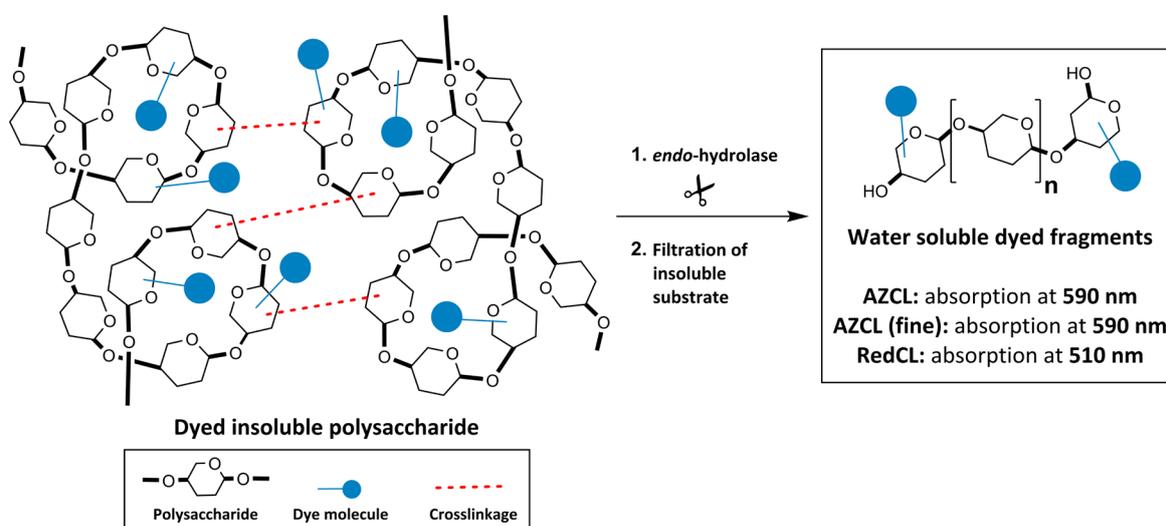


INSOLUBLE DYED POLYSACCHARIDES FOR THE ASSAY OF *endo*-HYDROLASES

04/17

Insoluble dyed polysaccharides are prepared by dyeing and crosslinking highly purified polysaccharides. These substrates are insoluble in buffered solutions, but rapidly hydrate to form gel particles which are readily and rapidly hydrolysed by specific *endo*-hydrolases, releasing soluble dye-labelled fragments.



These substrates can be used to detect enzymatic activities in agar plate, microtiter plate assays and semi-quantitative test tube assays. These methods allow for high throughput screening of multiple samples and are accurate, cost effective and easily performed.

Megazyme supplies three types of insoluble dyed polysaccharides:

Type	Form	Particle size	Absorbance	Colour
AZCL-polysaccharides	Granular	< 0.5 mm	590 nm	Blue/black
AZCL-polysaccharides (fine)	Fine powder	~ 0.1 mm	590 nm	Blue/black
RedCL-polysaccharides (fine)	Fine powder	~ 0.1 mm	510 nm	Red

The traditionally supplied substrates (AZCL-polysaccharides) are also available in tablet form. They can be used to measure enzyme activities in standard test-tube assays.

Recommended methods for screening enzymatic activities using insoluble dyed substrates are detailed in the Application Note, which is available under the Documentation tab.

SUBSTRATES, APPLICATIONS and SUGGESTED BUFFER

SUBSTRATE	CAT. NO.	ENZYME	BUFFER
AZCL-Amylose	I-AZAMY	α -Amylase (Fungal)	Na acetate, 100 mM, pH 4.4.
AZCL-Amylose (fine)	I-AZAMYF	(Cereal)	Na maleate, 100 mM, pH 6.0.
RedCL-Amylose (fine)	I-RCLAMYF	(Bacterial)	Bis-Tris, 100 mM, pH 7.0.
AZCL-Barley β -Glucan	I-AZBGL	Malt β -Glucanase	Na acetate, 25 mM, pH 4.5.
AZCL-Barley β -Glucan (fine)	I-AZBGLF	Lichenase	Na phosphate, 25 mM, pH 6.5.
RedCL-Barley β -Glucan (fine)	I-RCLBGLF	<i>endo</i> -Cellulase (<i>Trichoderma</i>)	Na acetate, 25 mM, pH 4.5.
AZCL-HE-Cellulose	I-AZCEL	<i>endo</i> -Cellulase (<i>Trichoderma</i>)	Na acetate, 25 mM, pH 4.5.
AZCL-HE-Cellulose (fine)	I-AZCELF	<i>endo</i> -Cellulase (<i>Aspergillus</i>)	Na acetate, 25 mM, pH 4.5.
RedCL-HE-Cellulose (fine)	I-RCLCELF		
AZCL-Pachyman	I-AZPAC	<i>endo</i> -1,3- β -Glucanase	Na acetate, 50 mM, pH 6.0.
AZCL-Curdlan	I-AZCUR		
AZCL-Curdlan (fine)	I-AZCURF		
RedCL-Curdlan(fine)	I-RCLCURF		
AZCL-Arabinan (Debranched)	I-AZDAR	<i>endo</i> -1,5- α -Arabinanase	Na acetate, 50 mM, pH 4.0.
AZCL-Dextran	I-AZDEX	<i>endo</i> -1,6- α -Dextranase	Na acetate, 50 mM, pH 5.0.
AZCL-Dextran (fine)	I-AZDEXF		
AZCL-Galactomannan	I-AZGMA	<i>endo</i> -1,4- β -Mannanase	Na acetate, 50 mM, pH 4.5.
AZCL-Galactomannan (fine)	I-AZGMAF		
RedCL-Galactomannan (fine)	I-RCLGMAF		
AZCL-Galactan (Potato)	I-AZGLP	<i>endo</i> -1,4- β -Galactanase	Na acetate, 25 mM, pH 4.3.
AZCL-Galactan (Potato) (fine)	I-AZGLPF		
AZCL-Chitosan	I-AZCHAN	Chitosanase	Na acetate, 50 mM, pH 5.0.
AZCL-Chitosan (fine)	I-AZCHANF	Chitosanase	
AZCL-Pullulan	I-AZPUL	Malt Limit-dextrinase	Na maleate, 100 mM, pH 5.5.
AZCL-Pullulan (fine)	I-AZPULF	Microbial pullulanase	Na acetate, 100 mM, pH 5.0.
RedCL-Pullulan (fine)	I-RCLPULF		
AZCL-Xyloglucan (Tamarind)	I-AZXYG	<i>endo</i> -Cellulase (<i>Trichoderma</i>)	Na acetate, 25 mM, pH 4.5.
AZCL-Xyloglucan (Tamarind) (fine)	I-AZXYGF		
RedCL-Xyloglucan (Tamarind) (fine)	I-RCLXYGF		
AZCL-Xylan (Birchwood)	I-AZXBW	<i>endo</i> -1,4- β -Xylanase	Na acetate, 25 mM, pH 4.7.
AZCL-Xylan (Beechwood)	I-AZXBE		
AZCL-Arabinoxylan (Wheat)	I-AZWAX		
AZCL-Arabinoxylan (Wheat) (fine)	I-AZWAXF		
RedCL-Arabinoxylan (Wheat) (fine)	I-RCLWAXF		
AZCL-Casein	I-AZCAS	<i>endo</i> -Protease	Na phosphate, 100 mM, pH 7.0.
AZCL-Collagen	I-AZCOL		
AZCL-Rhamnogalacturonan I	I-AZRHI	Rhamnogalacturonan hydrolase and lyase	Na acetate, 50 mM, pH 4.5 (or 8).

CONDITIONS OF USE OF AZCL-POLYSACCHARIDES:

AZCL-Polysaccharides are the active ingredient in the test tablets supplied by Megazyme. Consequently, further information on possible applications and assay conditions for these substrates can be obtained by reference to the appropriate Test Tablet booklet. In general, the concentration of the AZCL-polysaccharide in the test tablet is 30% w/w.

AZCL-Polysaccharide	Test Tablet	For the Measurement of:
AZCL-Amylose	Amylzyme Amylzyme BG	α -Amylase
AZCL-Barley β -Glucan	β -Gluczyme	Malt β -Glucanase Lichenase <i>endo</i> -Cellulase (<i>Trichoderma</i>)
AZCL-HE-Cellulose	Cellzyme C Cellzyme AF	<i>endo</i> -Cellulase (<i>Trichoderma</i>) <i>endo</i> -Cellulase (<i>Aspergillus</i>)
AZCL-Chitosan	Chitozyme	<i>endo</i> -Chitosanase
AZCL-Curdlan AZCL-Pachyman	1,3- β -Gluczyme HS 1,3- β -Gluczyme	<i>endo</i> -1,3- β -Glucanase
AZCL-Arabinan (Debranched)	Arabinzyme	<i>endo</i> -1,5- α -Arabinanase
AZCL-Dextran	α -Dextrzyme	<i>endo</i> -1,6- α -Dextranase
AZCL-Galactomannan	Mannzyme	<i>endo</i> -1,4- β -Mannanase
AZCL-Galactan (Potato)	Galactzyme	<i>endo</i> -1,4- β -Galactanase
AZCL-Pullulan	Limit-Dextrzyme	Malt Limit-dextrinase Microbial pullulanase
AZCL-Xyloglucan (Tamarind)	Cellzyme T	<i>endo</i> -Cellulase (<i>Trichoderma</i>)
AZCL-Xylan (Birchwood) AZCL-Xylan (Beechwood)	(refer to Xylzyme AX)	<i>endo</i> -1,4- β -Xylanase
AZCL-Arabinoxylan (Wheat)	Xylzyme Xylzyme AX Xylzyme AF	<i>endo</i> -1,4- β -Xylanase
AZCL-Casein	Protzyme AK	<i>endo</i> -Protease
AZCL-Collagen	Protzyme OL	<i>endo</i> -Protease
AZCL-Rhamnogalacturonan I	Rhamnozyme	Rhamnogalacturonan hydrolase and lyase