

# CAZyme™ CthXynY

## Technical Specifications



C5•6 Technologies, Inc.

Catalog No. 30534-1 2 mg (0.2 ml)  
Lot No.

**Store at 4°C. Do not re-freeze.**  
For *In Vitro* Research Use Only.  
Not for Drug or Diagnostic use. Not for use in humans or animals.

<b>Product Description</b>	CAZyme CthXynY, thermostable, recombinant expressed in <i>E. coli</i> cells, cloned from <i>Clostridium thermocellum</i> . 10 mg/ml. MW = 82 kDa
<b>Purity</b>	≥90% pure on Coomassie stained SDS-PAGE.
<b>Recommended Reaction Conditions</b>	CAZyme CthXynY is active between pH 6.0 and 7.0 at 70°C. Optimum pH is 6.0 and optimum temperature is 60°C.
<b>Specific Activity</b>	307 units/mg.
<b>Activity Determination</b>	One xylanase unit will produce 1 micromole of reducing sugar per minute at 70°C from a 2% solution of birchwood xylan (Sigma, X-0502) in 50 mM sodium acetate, pH 5.8. Assay method available upon request.
<b>Endoglucanase Activities</b>	CAZyme CthXynY possesses <i>endo</i> -xylanase and arabinoxylanase activities. Assay methods available upon request.
<b>Exoglucanase Activities</b>	CAZyme CthXynY possesses <i>exo</i> -cellulase activity. Assay methods available upon request.
<b>Protein Concentration</b>	10 mg/ml total protein as measured using the Bradford protein assay with BSA as standard.
<b>Stability</b>	Store at 4°C. If properly stored at 4°C, this product is guaranteed for 6 months from date of purchase.
<b>Storage Buffer</b>	50 mM Tris-HCl, pH 7.5, 100 mM NaCl, 25% glycerol.

**Note:** This enzyme is shipped frozen but should be stored at 4°C. Additional freeze/thaw cycles will result in decreased activity.

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MKNKRVLAKITALLVLLGVFFVLPSPNISQLYADYEVVHDTFEVNFDFGWCNLGVDTYLTAVE
NEGNNGTRGMMVINRSSASDGAYSEKGFYLDGGVEYKYSVFKHNGTGTETFKLSVSYLDS
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NQVHLYNPQYRIPSDATDMYVYVETADDTINFYIDEAIGAVAGTVIEGPAPQPTQPPVLL
GDVNG

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**Length:** 737aa  
**Theoretical pI:** 5.27  
**Theoretical MW:** 81,389 Da  
**PFAM Structure:** CBM49(CenC) GH10  
**Activity:** endo-xylanase  
**Typical Specific Activity:** 307 u/mg  
**Leader:** (-)  
**Dockerin:** (-)  
**Histag:** (-)  
**Esterase:** (-)

Figure 1. Features and sequence of recombinant CAZyme CthXynY (1).

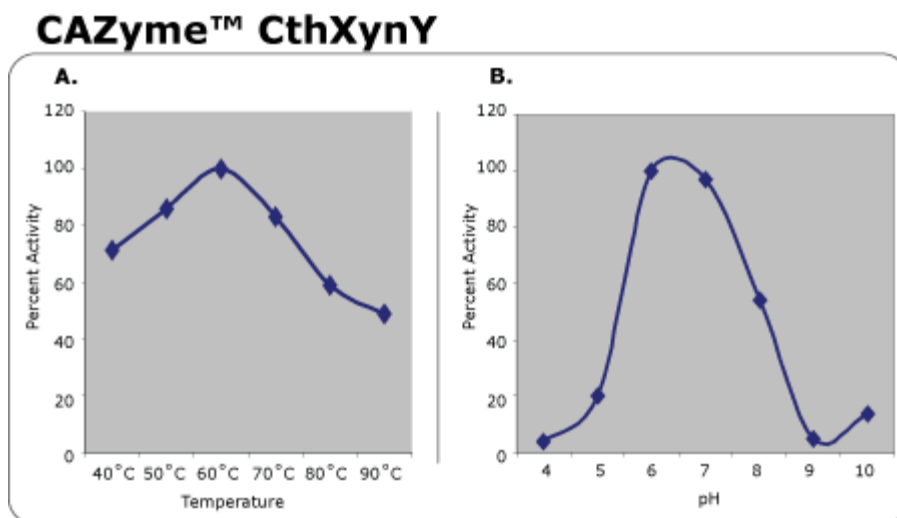


Figure 2. Temperature and pH tolerance of CAZyme CthXynY. Assay conditions available upon request.

1. Fontes, C. M. G. A., Hazlewood, G. P., Morag, E., Hall, J., Hirst, B. H., and Gilbert, H. J. (1995) Evidence for a general role for non-catalytic thermostabilizing domains in xylanases from thermophilic bacteria. *Biochem. J.* **307**, 151.