

CAZyme™ CthCelK

Technical Specifications



C5•6 Technologies, Inc.

Catalog No. 30560-1 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.

Product Description	CAZyme CthCelK, thermostable, recombinant expressed in <i>E. coli</i> cells, cloned from <i>Clostridium thermocellum</i> . 10 mg/ml. MW = 98 kDa
Purity	≥90% pure on Coomassie stained SDS-PAGE.
Recommended Reaction Conditions	CAZyme CthCelK is active between pH 5.0 and 7.0 at 70°C. Optimum pH is 5.8 and optimum temperature is 70°C – 80°C.
Specific Activity	2 units/mg (this enzyme is an exocellulase, not very active on β-Glucan).
Activity Determination	One cellulase unit will produce 1 micromole of reducing sugar per minute at 70°C from a 1% solution of β-glucan (Megazyme, P-BGBL) in 50 mM sodium acetate at pH 5.8. Assay method available upon request.
Endoglucanase Activities	CAZyme CthCelK possesses <i>endo</i> -cellulase, arabinoxylanase and β-glucanase activities when assayed using insoluble AZCL-linked substrates. Assay method available upon request.
Exoglucanase Activities	CAZyme CthCelK possesses <i>exo</i> -cellulase and cellobiohydrolase activities. Assay method available upon request.
Avicel activity	CAZyme CthCelK along with β-glucosidase 1 was active on Avicel using Megazyme D-Glucose kit (GOPOD) format.
Protein Concentration	10 mg/ml total protein as measured using the Bradford protein assay with BSA as standard.
Stability	Store at 4°C. If properly stored at 4°C, this product is guaranteed for 6 months from date of purchase.
Storage Buffer	50 mM Tris-HCl, pH 7.5, 100 mM NaCl, 25% glycerol.

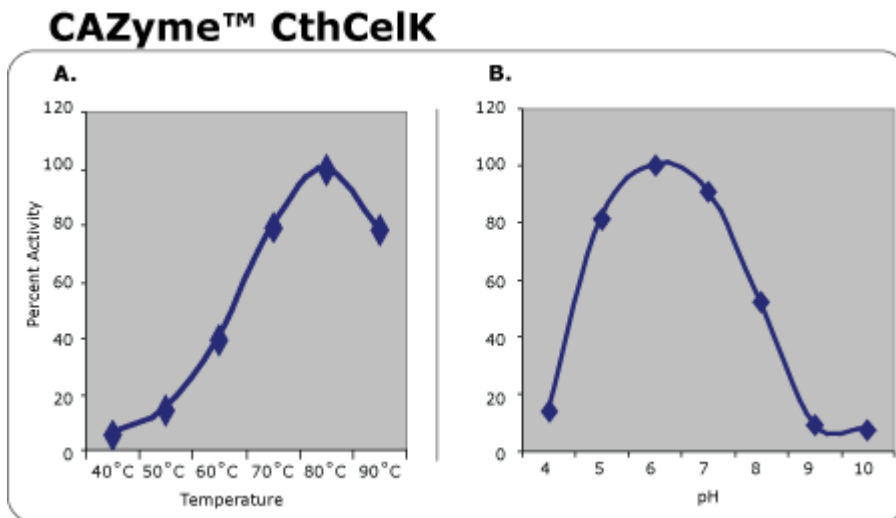
Note: This enzyme is shipped frozen but should be stored at 4°C. Additional freeze/thaw cycles will result in decreased activity.

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MLEDKSSKLPDYKNDLLYERTFDEGLCFPWHTCEDSGGKCDFAVVDVPGEPGNKAFRLTVI
 DKGQNKWSVQMRHRGITLEQGHTYTVRFTHIWSKSCRVIYAKIGQMGEPTYEYWNWNPNPFN
 LTPGQKLTVEQNFTMNYPTDDTCEFTFHLGGELAAGTPYYVYLDDVSLYDPRFVKPVEYVL
 P QPDVRVNQVGYLPFAKKYATVVSSTSP LKWQLLNSANQVVLEGNTIPKGLDKDSQDYVH
 WIDFSNFKTEGKGYFFKLPTVNSDTNYSHPFDISADIYSKMKFDALAFFYHKRSGIPIEMP
 YAGGEQWTRPAGHIGIEPNKGD TNVPTWPQDDEYAGRPQKYTKDVTGGWYDAGDHGKYVV
 NGGIAVWTLMNMYERAKIRGIANQGAYKDGGMNI PERNNGYPDILDEARWEIEFFKKMQVT
 EKEDPSIAGMVHKKIHDFRWTALGMLPHEDPQPRYL RPVSTAATLNFAATLAQSARLWKDY
 DPTFAADCLEKAEIAWQAALKHPDIYAEYTPGSGGPGGGPYNDYVVGDEFYWAACELYVTT
 GKDEYKNYLMNSPHYLEMPAKMGENGANGEDNGLWGCFTWGTTOGLGTITLALVENGLPA
 TDIQKARNNIAKAADRWLENIEEQGYRLPIKQAEDE RGGYPWGSNSFILNQMIVMGYAYDF
 TGNSKYLDGMQDGM SYLLGRNGLDQSYVTGYGERPLQNP HDRFWTPQTSKKFPAPPPGIIA
 GGPNSRFEDPTITAAVKKDTPPQKCYIDHTDSWSTNEITVNWNAPFAWVTAYLDEIDLITP
 PGGVDPEEPEVIYGDCNGDGKVNSTDAVALKRYILRSGISINTDNADVNADGRVNSTDLAI
 LKRYILKEIDVLP HK

Length: 869aa
Theoretical pI: 5.20
Theoretical MW: 97,849 Da
PFAM Structure: CBM4 CelDN GH9 D1
Activity: exo-cellulase
Typical Specific Activity: 2 u/mg
Leader: (-)
Dockerin: (+)
Histag: (-)

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



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

1. Kataeva, I., Li, X.-L., Chen, H., Choi, S.-K., and Ljungdahl, L. G. (1999) Cloning and Sequence Analysis of a New Cellulase Gene Encoding CelK, a Major Cellulosome Component of *Clostridium thermocellum*: Evidence for Gene Duplication and Recombination. *Journal of Bacteriology*. **181**, 5288.