

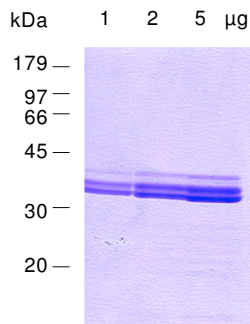
Certificate of Analysis

Product	CK2 alpha 1 (CSNK2A1), active human recombinant, expressed in E. coli	
Cat No	PK-007-01	
Lot No	120504	
Description	Purified human recombinant CK2 alpha 1, expressed in E.coli as a non fusion protein. The alpha subunit is the catalytic subunit of serine/threonine protein kinase CK2. Constitutively active. Suitable for labeling CK2 alpha substrates. Shown to be extremely salt sensitive, highest activity without salt. Purified by several chromatography steps. Sequence based calculated M.W. 45,143 Approved HUGO gene symbol: CSNK2A1 Synonyms: protein kinase CK2 alpha, casein kinase 2 alpha	
Quality	Protein concentration (Bradford with BSA as standard)	0.4 mg/ml
	Purity	> 95% by SDS PAGE
	Specific activity (* 1 Unit is defined as 1 picomole phosphate transferred to synthetic peptide (RRRDDDSDDD per min at 37 °C)	1,320,000 Units*/ mg
	Protease activity (Twining test)	none
Form	Liquid. In 25 mM Tris-HCl, 500 mM NaCl, 1 mM DTT, 500 µM PMSF, 50 % glycerol, pH 8.5.	
Package size	10 microgram	
Storage condition	-70 °C	
Shipment conditions	dry ice	

Material for in vitro research use only. Not for pharmaceutical or drug application. Material does not contain any animal products such as albumin.

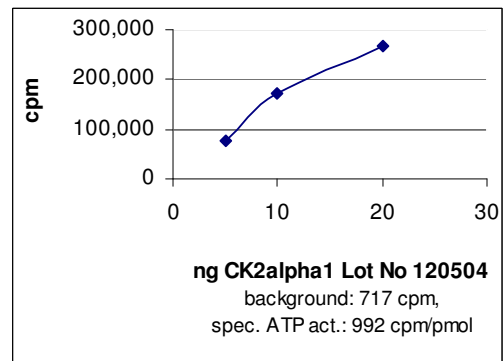
AVOID FREEZE/THAW CYCLES

SDS-PAGE analysis



Please note: CK2 alpha 1 degrades readily into distinct shorter forms. However, activity is not influenced.

Activity determination



Amino acid sequence information

M1 corresponds to M1 in M55265

MSGPVPSRAR	VYTDVNTHRP	REYWDYESHV	VEWGNQDDYQ	LVRKLGKRGKY	50
SEVFAINIT	NNEKVVVKIL	KPVKKKKIKR	EIKILENLRG	GPNIITLADI	100
VKDPVSRTPA	LVFEHVNNTD	FKQLYQTLTD	YDIRFYMYEI	LKALDYCHSM	150
GIMHRDVKPH	NVMIDHEHRK	LRLIDWGLAE	FYHPGQEYNV	RVASRYFKGP	200
ELLVDYQMYD	YSLDMWSLGC	MLASMIFRKE	PFFHGHNDYD	QLVRIAKVLG	250
TEDLYDYIDK	YNIELDPRFN	DILGRHSRKR	WERFVHSENQ	HLVSPEALDF	300
LDKLLRYDHQ	SRLTAREAME	HPYFYTVVKD	QARMGSSSMP	GGSTPVSSAN	350
MMSGISSVPT	PSPLGPLAGS	PVIAAANPLG	MPVPAAAGAQ	Q	391

***In vitro* Kinase Assay**

Assay Components

One-for-all-buffer (OFAB): 20 mM Tris-HCl, 25 mM beta-glycerol phosphate, 5 mM EGTA, 1 mM DTT, pH 7.5

Substrate: CK2 peptide RRRDDDSDDD, 800 microM

Protein kinase: CK2 alpha 1, 5 - 10 ng/microliter diluted in OFAB directly before use

Magnesium/ATP Cocktail: 75 mM MgCl₂, 500 microM ATP

Diluted [γ -³²P]ATP: Mix 197 microliter Magnesium/ATP cocktail with 3 microliter (30 microCi) [γ -³²P]ATP (3000 Ci/mmol, e.g. from Hartmann Analytic, Braunschweig, Germany)

Assay Procedure

All compounds are pipetted into a microcentrifuge tube on ice

1. Add 10 microliter OFAB
2. Add 10 microliter 800 microM CK2 peptide
3. Add 10 microliter CK2 alpha 1 (50 - 100 ng/assay)
4. Add 10 microliter of the diluted [γ -³²P]ATP
5. Incubate 10 min at 37 °C.
6. Stop the reaction by setting samples on ice
7. Remove 10 microliter and spot on P81 paper (let bind to the paper for 30 sec)
8. Immerse the paper in 0.75% phosphoric acid, gently shake on a rotator
9. Wash 3 x with phosphoric acid
10. Wash 1 x with acetone
11. Dry under infrared light
12. Read in scintillation counter or Instant Imager

References

Grankowski N, Boldyreff B, Issinger OG 1991 Eur J Biochem 198: 25-30

Meggio F, Boldyreff B, Marin O, Pinna LA, Issinger OG 1992 Eur J Biochem 203: 293-297.

Issinger OG, Brockel C, Boldyreff B, Pelton JT 1992 Biochemistry 31: 6098-6103