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		E	R	F	N	I	N		G	N	F	D
Papain	(1)	FESWMLKHNKIYKNIDE	KIYRFEI	FKDN	LKYIDE	TNK	----	KNNSYWLGLN	VFAD	MSNDEF		
SnuCalCp09	(1)	FESWIEKHGKIYETIEE	KLHRFEI	FKEN	LKHIDE	RNK	----	IISNYWLGLN	FADL	SHSHEEF		
SnuCalCp11	(1)	FESWASKHGKRYKSVEE	KLLRFEN	FMDN	LKHIDE	SNKE	---	ANKTYWLGLN	FADL	SHSHEEF		
SnuCalCp04	(1)	FSLFKAKFGKSYASLEE	HDYRLSV	FKAN	LRRAKRNQ	ILDP	----	SAVHGVTK	FSDL	TPSEEF		
SnuCalCp07	(1)	FSIFKKKFGKSYVSIEE	ENYRLSV	FKAN	MRAQRNQE	----	LDPSAEHGVTQ	FSDL	TPREF			
SnuCalCp13	(1)	FKSFVEEYGKEYSSRKE	YVHRLGV	FAKN	LLRAAEHQ	AMDP	----	TAVHGVTE	FSDL	TEDEF		
SnuCalCp08	(1)	FARFAHRYGKRYETAEE	IKVRFDI	FRDN	LRMTKSH	NKK	----	GLSFSLGVNA	FSDL	TWEEF		
SnuCalCp16	(1)	FASFALKYGKKYETDGE	IKKRFEI	FREN	LWKIESH	NKK	----	GLSYTLGINE	FSDM	TWEEF		
SnuCalCp14	(1)	FENWCREYGKTYSSQE	KQYRHGV	FKDN	YDYITQH	NSK	---	GNSTCTLSLN	FADL	THHEF		
SnuCalCp18	(1)	YEKWRSHHTVSRDLTEK	QKRYNV	FKAN	ALHVYNS	NK	----	MDKPYKLLKN	FADMT	SHEF		
SnuCalCp19	(1)	YERWRSHHTISTNLDEK	HRRFN	FRAN	AHYVHEFN	NK	---	DDVPYKLLKN	FADMT	NHEF		
SnuCalCp20	(1)	HEQWMVQYGRVYKDDTE	KASRFKI	FKEN	VEYIESFN	KAG	---	IRSYKLGINK	FADLT	NEEF		
SnuCalCp01	(1)	YEEWLVKHKQLHSSLGE	KIKRFEI	FKDN	LRYIDE	QNNYNKFNHKNFTL	GLNQ	FADLT	LDEF			
SnuCalCp10	(1)	YEEWLVKHKQLHSNLGE	KIKRFKI	FKDN	LRYIDE	QNNYNKVNHMNFTL	GLNQ	FADLT	LDEF			
SnuCalCp02	(1)	YESWLVKHGKAYNALGE	KEKRFEI	FKDN	LQFIDE	HNS	----	KNLSYKLG	LNRF	SDLSHEEF		
SnuCalCp05	(1)	YEAWLVEHGKSYNGLGE	KDKRFEI	FKDN	LRYIDE	QNSV	---	ANRTYKLG	LNRF	FADLT	NDEY	
SnuCalCp17	(1)	YEEWLVKHGKAYNALGE	KSNRF	FKDN	LRYIDD	HNSN	---	ANRTYKLG	LNQ	FADLT	NSEF	
SnuCalCp03	(1)	YEEWIVKHGKSYNALGE	EKFKRFEI	FKDN	LKYIEKH	NSL	---	PNQIYKLG	LNQ	FSDL	TDEF	
SnuCalCp12	(1)	YEEWVVEYRKSVDALGVEKLR	FEI	FKDN	LKYMEEH	NSL	---	PNQTYKLG	LNQ	FSDL	TLREF	
SnuCalCp15	(1)	FEEWLVKHKRVYNAIGE	KEKRFEI	FKN	NLKFIDE	HNIR	--	YPNKTYTLGLN	VFAD	LT	DDEY	

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Papain (1) ----IPEYVDWRQKGA VTPVKNQ GSCGSCWAFSAVVTIEGIIKIR TGNLNEYSEQELLDCDRR-----SYGCNGGY PWSALQLVAQYG-IHYRNTYPYEGVQRYC
SnuCalCp04 (1) ----LPTDFDWRDHGAVTGVK DQ GSCGSCWFSFATGALEGAHYLATGELVSLSEQQLVDCDHECDPEESGSCDSGCNGLMNNAFEYVLKAGGVVSEQTYPYTGTDTGKC
SnuCalCp07 (1) ----LPSDFDWRDRGAVGVPVKNQ GSCGSCWFSFSTTGALEGANYLATGK FVSLSEQQLVDCDHECDPAEADSCDSGCNGLMNNAFQYTLKAGGIMREEDYPYTGTDRTGT
SnuCalCp13 (1) ----LPENFDWRDHGAVTEVK TQGTGSCWAFSTTGAIEGANFVATGKLVSLSEQQLVDCDHACDIKDKDSCDDGCSGGLMTNAYNYLIEAGGIEEESYPTGKRGE C
SnuCalCp06 (1) LPNQFDARTAWPQCATIGRILDQGHCGSCWAFGAVETLSDRFCIHFGMNLISLVNDLLSCCGFMCG-----NGCDGGYPLSAWKYFVYSG-VVTEECDPYFDNEGCS
SnuCalCp08 (1) ----LPEMKDWRGTGIVSPVKDQGHCGSCWTFSTTGALEAAYTQAFKKEISLSEQQLVDCAGAFN-----NFGCRGGLPSQAF EYIKYNGGLDTEEAYPYVGNKGV C
SnuCalCp16 (1) ----LPKSKDWRDAGIVSPVKDQGNCGSCWTFSTTGALEAAYAQA YQNI SLSEQQLLDCAGDFN-----NFGCDGG LPSQAF EYIKYSGGIETEESYPYMEKEGEC
SnuCalCp01 (1) ----LPNSVDWRKKD VVFP I RNQ GCGSCWTFSAVASIETLIGIKEDRMIALSEQELLDCERTS-----YGCKGGYITNAFAYVAKKG-LTSREKYPYIFQQGQC
SnuCalCp10 (1) ----LPKSVDRKKGFVLP I RNQ KCGACWAFSAVASIETLIGIKKGR TIALSEQELLDCVTAC-----DGCKAGHYDSAFAYVAKYG-ITSREKYPYVYKKGQC
SnuCalCp03 (1) --FPVPPSVDWREK GALVPIKNQGRCGSCWAFSAVASVEALNKIKGGELISLSEQMMVDCVNAS-----YGCKGGRQTD AFKYIKVHG-IASSKDYPYVGVQGP C
SnuCalCp12 (1) ----LPDSVDWRKRGAVLP IKNQ GCGSCWAFSAIASVEALNKIKGGDLISLSEQMLVDCVTS-----SHGCNNGRQIDAFRYMTD HG-IASSDDYPYEA VRGSC
SnuCalCp15 (1) ----LPDFVDWRSKGIVLPIENQ GDCGSCWAFSAICSV EGIYAQRSGK LLSLSEQELVDCERR-----SYGCDGGDYSTAF EYITFFG-VSSEKSYPYTAE DGC
SnuCalCp02 (1) ----LPKSVDWREKGA VAPVKDQ GCGSCWAFSTVGAVEGINKIVTGD LVTLSEQELVDCDNTY-----NQGCNGLMDYAF EFTTNNGGIDT EDDYPYTARDGTC
SnuCalCp05 (1) ----LPDSVDWRKEGAVVPVKDQ GSCGSCWAFSTIASVEG I SAVVTGDLISLSEQELVDCDISY-----NEGCNGLMDYAFQFIIDNNGGIDSEEDYPYTA KDGR C
SnuCalCp17 (1) ----LPDSVDWRKEGAVVP IKNQ GCGSCWAFSAIASVEGINAIVTGT LLSLSEQELVDCDNSGG-----NEGC SGLMDPAFEF ITENGGIDSEEDYPYKGRQGT C
SnuCalCp09 (1) ----IPKSVDRKKGAVT P VKNQ GSCGSCWAFSTVA AVEGINQIVTGNL TSLSEQELIDCDTAY-----NNGCNGLMDYAFSFTVSNGLLHK EEDYPYLMEEGTC
SnuCalCp11 (1) ----IPKSM DWRKRGAVGHVKNQ GPCGSCWAFSTVA AVEGINKIVTGNFTSLSEQELIDCDTS-F-----NNGCNGLMDYAFQYITQNGGLRKEEDYPYLM DQGT C
SnuCalCp14 (1) -----MEGINKIVTGS LLSLSEQELIDCDRSY-----NSGCEGGLMDYAYK FVNNNGGIDTENDYPFQGRSGAC
SnuCalCp18 (1) ----LPTSVDWRKQGA VTPVKNQ GRCGSCWAFSTVVGVEGINKIKTSGHLISLSEQELVDCESD-----NEGCNGLMENAYEFTK KKGITTERAYPYRARNELC
SnuCalCp19 (1) ----VPTSIDWRQKGA VNPVKDQ GCGSCWAFSTVVA VEGIN YIKTTKLVSLSEQELVDCDNRE-----NEGCNGLMDVAF EFTMKNGGITTEQNYPYRARDGR C
SnuCalCp20 (1) ----VPASMDWRKKGAVTGIK DQ GCGC WAFSAVAAMEGINQLTTHK LLSLSEQELVDCDTSE-----DQGCNGLMDDAFQFIISNKGLTTE SNYPYQGV DGT C

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Papain (96) RSREK-----GPYAAKTDGVRQVQPYNEGALLYSIANQPVSVVLEAAGKDFQLYRGGI-FVGP CGNK----VDHAVA AVGY-----GPN
SnuCalCp04 (106) SFDK-----SKVVAKVANF SVVSLDE DQIAANLVKHG PLAVGINAA--WMQTYIGGV SCPYICGKH----LDHGVLLVGYGAEGYAPIRLKEKP
SnuCalCp07 (106) CKFDQ-----TKVAAKVANF SVVSLDE DQIAANLVKNG PLAVAINAVY--MQTYIKGV SCPYICSKR----LDHGVLLVGYGSEGYAPIRMKDKP
SnuCalCp13 (106) KFTP-----EKVAVRLQNFTTVSGSEEQIAAHLVRNGLAVGLNAVF--MQTYIGGV SCLPICKGK---FLNHGVLLVGYGSSGFSIIRLGHKP
SnuCalCp06 (102) HPGCEPGYPTPKCHRKCVKGNLLWKQAKHYSKRPHKIKSDPYDIMA EYVKNGPVQSFTVY-EDFAHYRSGVYKHITGSSLG----GHSV KLI GWGTS-----EDGED
SnuCalCp08 (99) KYSS E-----NVGVRVLD SVNITLGA EDELKYAVGLLRPVSVAF EVVK-DFRHYKSGVYTSNTCGSSPMD-VNHAVLAVGYG-----VEDGIP
SnuCalCp16 (99) KFYSG-----NVAVRVRDSFNISQGN EYDLQVAVAYIRPVSVAFQVL-EDFKQYKSGIYTSTECGSTP-EDVNHAVLAVGFG-----IENGTP
SnuCalCp01 (96) YQ-----KEKVVKLSGYRRIPKNDEKKLQSVVAQQVSVGVKSRDFQHYRSGV-FSGACGPR----VDHAVNIVGYGS-----EGGVN
SnuCalCp10 (96) SR-----KKKVVKLSNYKRLLRNNEGQLQIAVAQQVSVGVKATSKDFQHYRSGI-FKGACGPQ----LNHAVNIVGYGS-----EGGVN
SnuCalCp03 (98) QP-----KEIVLKISGYRGIVRNNEKYLQIIASQQVSVSIVKVG-KDFQHYKSGI-FNGTCGDK----INHG VNVVGYGS-----ENGIP
SnuCalCp12 (96) KN-----KKIVVKIKGYRRILPRERFLLSRASMQVSVSIVKAGSKDFQHYKSGI-FNGKCGNK----INHG VNVVGYGS-----EDGNA
SnuCalCp15 (96) KS--D-----MIKVVQIDGYDINYNDEKALQKSVSEQVSVAVKANSVEFKLYNSGI-FSGKCGIE----SDHAVNIGYGS-----EDNVD
SnuCalCp02 (98) DQFRK-----NARAVSIDGFEDVPKGD EQLSKKAVAHQPVSVIAIEAGGRA FQHYQSGV-FTGHCGTN----LDHGVVAVGYG-----TEDGVD
SnuCalCp05 (98) DQYRK-----NAKVVTIDGYEDVPRNNEEALKTAASQVSVVAIEGGGRDFQLYRGGV-FTGKCGTS----LDHGVNVVGYGS-----ENGLD
SnuCalCp17 (99) DQYRV-----NVKVVKINGYEDVPRNNEKALKKAVASQVVSAAISAGGIDFQLYESGI-YSGRYGTE----LDHG ISIVGYGS-----ENGYD
SnuCalCp09 (98) DEKRT-----ESEVVTISGYHDPQSN EQSFLKALAHQPLSVAIEASGRDFQFYSGGV-FDGHCGETE----LDHGVAAVGYGS-----TKGLD
SnuCalCp11 (98) EATKE-----ETDVVTISGYQDVPQND EQLL KALAHQPLSVAIEASGRDFQFYKGGI-FTGPCGSQ----LDHGVAAVGYGS-----SKGLD
SnuCalCp14 (65) NRNKL-----KRRVVTIDGYRDPAGNENALMKAVAVQPVSVGICGSR AFQLYSGV-FTGPCSTS----LDHAVLIVGYDS-----HNGVD
SnuCalCp18 (97) DSEKM-----NAPVVKIDGHEMVPEDDEDALMKAVANQPVSVVAIDAGSINMQFYSEGV-FTGPCGTE----LDHGVAIVGYGT-----TLDGTK
SnuCalCp19 (98) DKNKA-----SHSAV SIDGYEDVPANNEDALLKAVANQPVSVVAIDAGGSD FQFYSEGV-FTGKCGTE----LDHGVAIVGYGT-----TVDGTK
SnuCalCp20 (98) NSNKE-----SNSAAKITGYEDVPENSEAALLKAVANQPVSVVAIDAGSDFQFYSSGV-FTGECGTD----LDHGVTA VGYGKS-----AEDGTK

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Papain (170) YILIKNSWGTGWGENGYIRIKRGTGNSYGVCGLYTSSFYYPV
SnuCalCp04 (189) YWLIKNSWGENWGEEGYKICRG----RNVCGVDSMVSTVA
SnuCalCp07 (190) YWLIKNSWGEHWGENGFYKICRG----RNVCGVDSMVSTVA
SnuCalCp13 (190) YWIMKNSWGKRWGEHGYYRMCRCG----HNMCGINTMVSADV
SnuCalCp06 (200) YWLLANQWNKSWGDEGYFMIKRG----TNECGIEDSVVSGM
SnuCalCp08 (180) YWLIKNSWGASWGDNGYFKMEMG----KNMCGVSTCASFPV
SnuCalCp16 (180) YWLIKNSWGTDFGIHGYFMMEMG----KNMCGVATCASFPF
SnuCalCp01 (171) YWIVRNSWGTNWGENGYMRIIPRNSNQSGGYCGIAYQAAYPV
SnuCalCp10 (171) YWIVRNSWGTGWGEKGYMRIILRNSKQSEGYCGIAMKPSFPV
SnuCalCp03 (172) YWIVRNSWGKGWGEQGYIRMRNIRDPAAGCCGVAITPTFPV
SnuCalCp12 (171) YWIVRNSWGEKWGEQGYMRMPRNIRKSEGYCGIALRPSLPV
SnuCalCp15 (172) YWIVRNSWGTDWGENGYMRIIRNTKDPQGHCGIADEPSYPV
SnuCalCp02 (176) YWIVRNSWGPKWGEAGYIKLERNVHGNTGKCGIAMEPSYPV
SnuCalCp05 (176) YWIVRNSWGPSWGENGYIRMQRNVASSSGLCGIAIEPSYPI
SnuCalCp17 (177) YWILRNSWGTKWGEDGYMRLRRNVPESSGHCQIATLPSYPI
SnuCalCp09 (176) YIIVKNSWGPKWGEKGYIRMKRNTGKPEGICGINKMASYPT
SnuCalCp11 (176) YIIVRNSWGSTWGERGYIRMQRNTGNHEGLCGINKMASYPV
SnuCalCp14 (143) YWIVKNSWGTSWGIEGYAYMARNTGNSEGVCGINMLASYPV
SnuCalCp18 (176) YWIVKNSWGTWEGEGGYIRMVRGSHAEGGICGIAKEASYPV
SnuCalCp19 (177) YWIVRNSWGPWGEKGYIRMHRGINAKEGLCGIAMQPSYPI
SnuCalCp20 (178) YWLVKNSWGTSWGGEN-----