

CrLAMT	MVATIDS..IEMP...ALPTAVEAHEMKGDDSHSYSON	34
OpLAMT	MAPTMDNNTTITITVELIKEMPEEAHEMKGDDDLNSYSON	40
NcSABATH7	MAPTMDT.IFSVE...IKMPEEAHEMKGDDDLNSYSON	35
NcSABATH22	MAPTMDTPTFSLD....IKEMPEEAHEMKGCHDINSYSON	36
MtLAMT	.....MKGCDGPHSYAON	13
CaLAMT	MANEEPK.....ILPESTFENGGEGPHSYTRN	27
LjLAMT	MAPTMVS.....QOETLEAHEMKGDDGINSYSON	29
Consensus	m g g s y n	
CrLAMT	SCYKRGVIDAAKAVIVEAVNPKLDLENNPI..FDPIKPER	72
OpLAMT	SCYKRGVIBAAKAVIVEAVHFKMDLENNITTFDPSKPER	80
NcSABATH7	SSYKRGVIDAAKAVIVEAVTPKLDLENNAN..FNPSKPER	73
NcSABATH22	SCYKRGVIDAAKSVIIFAVTPKLDLENNITTFDPSKPEH	75
MtLAMT	SKTORVGIABAASLIQGAENKRYFNINSNN...SRKQIC	50
CaLAMT	SCYKREVVDAARCKITIEALIEKLDLENPPLN...YSNPIK	64
LjLAMT	SCYKRGVIDAAKLVITFAVTPKLDLENKPIFD..SSCNSER	67
Consensus	s q aak i a k	
CrLAMT	IADFGCSIGENIEFAMGNIVEVETKYSLQ...KTFEE	108
OpLAMT	IADFGCSIGENIEFAMGNIVEVVDNRYKSLKLN..QCVEE	118
NcSABATH7	IADFGCSIGENIEFAMGNIVEAVGQRYKSLGK..SQEET	111
NcSABATH22	IADFGCSIGENIEFAMGNIVEAVEQRYKSLK.R..NCFEE	112
MtLAMT	IADFGCSIGENIEFATCCITIEATELQRYKSLQ...LATPEE	87
CaLAMT	IADFGCSIGENIEFAMGNLIKATELKYSLQLQNPQTFEE	104
LjLAMT	IADFGCSIGENIEFAMGNIVEAVEQRYKSA.L..EVPEE	104
Consensus	iad gcs gpent a q y ef	
CrLAMT	HVFNDHVNNDENFLERSLFPNREIFAAGPGSFYTRVFP	148
OpLAMT	HVFNDHANNNDENFLERSLQONRDYFAAGPGSFYSRVFP	158
NcSABATH7	HVFNDHVNNDENFLERSLQONRDYFAAGPGSFYTRVFP	151
NcSABATH22	HVFNDHVNNDENFLERSLQKRDYFAAGPGSFYTRVFP	152
MtLAMT	QVFNDQISNDENFLERKLPENRNYFAAGPGSFYGRVFP	127
CaLAMT	QVFNDHTRNDENFLERLPPSRKYFAAGPGSFYGRVFP	144
LjLAMT	QVFNDHVIDNDENFLERLPPARKYFAAGPGSFYSRVFP	144
Consensus	v fnd n g f n f l p r faag pgsfy r fp	
CrLAMT	KNSLHFACSYALHWLWVSKVKEITQDKNSLRYNKRGRHYTG	188
OpLAMT	KASLHFACSYALHWLWVSKVKEIQDKNSLRYNKRGRHYTG	198
NcSABATH7	KASLHFACSYALHWLWVSKVKEIQDKNSLRYNKRGRHYTG	191
NcSABATH22	KASLHFACSYALHWLWVSKVKEITQDKNSLRYNKRGRHYTG	192
MtLAMT	KESLNVHSSASLHWLWVSKVKEITDRSAPACNKRGRHYTN	167
CaLAMT	KATLHIAHSYALHWLWVSMTEEVVDKNSLRYNKRGRHYNS	184
LjLAMT	KASLHFVCSYALHWLWVSKVKEITTEGSEAWNKRGRHYTG	184
Consensus	k h l w s p e s a n g h y t g	
CrLAMT	TEKHVWVAYFQCQFQKFEGLKARAGEIVVCGGLMVICQPG	228
OpLAMT	TEKQVWVAYFSCQFKLDSFLKARAGEIVGCGGLMVICQPG	238
NcSABATH7	TEKHVWVAYFSCQFKTIGSFLKARAGEIVGCGGLMVICQPG	231
NcSABATH22	TEKHVWVAYFQCQFKMDAFLKARAGEIVCGGLMVICQPG	232
MtLAMT	APKREVVAVANQYQKQMEITLHARAGEIVGGLMALQIE.	206
CaLAMT	DNREVFVAYSSQYKQDMEVFLSSRAGEIVGGLMLLLTQPG	224
LjLAMT	VEKHVWVAYFQCQFKFDITFLKARAGEITAGGLMVICQPG	224
Consensus	v ay e f f l ra e glm p	
CrLAMT	LPSGEVLFESRTGAGLHHAITCTSMELVNRGIINPESVDS	268
OpLAMT	LPSGEVLFESRTGAGMLHHAITGSSIMDLVNMGIINPESVDS	278
NcSABATH7	LPSGEVLFESRTGAGMLHHAITGSSIMELVNLGIINPESVDS	271
NcSABATH22	LPSGEVLFESRTGAGMLHHAITGASIMELINLGIINPESVDS	272
MtLAMT	AATVTFDSDFYCGKNFELICTOILMAKEEKVDPERVDT	246
CaLAMT	CPDG.VEPPSCTCTSMIFGLFSGOLMMAKGMISPERVDS	263
LjLAMT	LPTGEVLFESRTGAGLHHAITGASIMEMVKGVISPERVDS	264
Consensus	s l g l e vd	
CrLAMT	FNLQYHESVEIDEMVIEDNDSFTLIRVGTLPHEMKNLPE	308
OpLAMT	FNLQYHESIEIDEMVIEDNNSFTLIRKIGALNHFMKNLAF	318
NcSABATH7	FNLQYHESIEIDEMVIEDNNSFTLIRKVGALNHFMKNLPE	311
NcSABATH22	FNLQYHPSIEIDEMVIEDNNSFTLIRKVGALNHFMKNLPE	312
MtLAMT	FNLPIEFSPKLLIKILSNDDEITLQMETAKSHFIQV	286
CaLAMT	FNLPLYQTSFNDIKQLTEFNGYFNTRLDLFTPHAPPDPS	303
LjLAMT	FNLQYHESIEIDEMVIEDNNSFTLIRIGALNHPLRNVPF	304
Consensus	fn p l e n f e	
CrLAMT	DVQRTSLQVRAIMPGILITDFEG.ENTLDLDFEITYCKKLQE	347
OpLAMT	DAQRTSLQVRAIMPGILITKQFG.DKILDLDFEITYCKKLQE	357
NcSABATH7	DVQRTSLQVRAIMPGILIDDFEG.EKILDLDFEITYCKKLQE	350
NcSABATH22	DVQMTSSQVRAIMPGILITDFEG.EKILDLDFEITYCKKLQE	351
MtLAMT	NAQMYVSFRPAALGVIENDFEG.NGILDLDFEITYCKKQME	325
CaLAMT	DVEMLALHRRATBGLITDFEGTDQITIEELFESMAKRMQE	343
LjLAMT	DVKMTSAQVRAIMPGILITDFEG.DEIMDLDFEITYCKKLAD	343
Consensus	ra e fg i lf y	
CrLAMT	NHVFDEKEIRKQADLYLVKRRKN	371
OpLAMT	NYIVFDKEIRKQADLFLIVKRRKN	381
NcSABATH7	NYNVFDKEIRRDADLFLIVKRRKN	374
NcSABATH22	NYNVFDKEIRRDADLFLIVKRRSK	375
MtLAMT	IPATVLDLQNLIVGLFVLVRRKVV.	348
CaLAMT	NCCVFDVKYRKDFVIFVQVRRKMT	367
LjLAMT	NYIVFDKEIRRDVDFCLVIVKRRKN	367
Consensus	d l rk	

**Supplementary Figure S3.** Alignment of amino acid sequences of NcSABATH7/22 with LAMT from the other five species. Mt, *Medicago truncatula*; Lj, *Lonicera japonica*, Ca, *Camptotheca acuminata*. Active sites were marked in red.