

## 8 ANHANG

### I. Sequenzen

#### I.1 DNA-Sequenz und daraus abgeleitete Aminosäure-Sequenz des Klons *NtCPI1* aus *Nicotiana tabacum*.

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gcaaaagagcgagagagagagagagagagagagagagagagagagagagagagagagaaa 60
atgggcgttgattactacaaaatactcaaagtgtcacgcaatgcgagtgaagaagatttg 120
  M G V D Y Y K I L K V S R N A S E E D L 20
aaaaaatcgtacaagcgattggcgatgaaatggcatccggataagaacagtgagaaaagaa 180
  K K S Y K R L A M K W H P D K N S E K E 40
gcagaagcgaaattcaagcagatatcggaggcctatgatgtgctaagtgatccacagaag 240
  A E A K F K Q I S E A Y D V L S D P Q K 60
cgtcagatctatgatataacggcgatgaggcggttgaaatcgggtcaattcgatccctcg 300
  R Q I Y D I Y G D E A L K S G Q F D P S 80
tcacctatgaatggtaatgggagaggatttaagttcgattcgcgtgatgcggaagatatt 360
  S P M N G N G R G F K F D S R D A E D I 100
tttgcggaatTTTTTGGTGGATCGGATGGGTATAGTAGGAGTCTACTGGTGGTACTGTA 420
  F A E F F G G S D G Y S R S P T G G T V 120
cggattaggaagccggcgccgggtggagaacaagttgccatgtagcttgagggaattgtac 480
  R I R K P A P V E N K L P C S L E E L Y 140
aagggttctaagaggaagatgaagatttcaaggattgttcttgatgtcactggtaagcct 540
  K G S K R K M K I S R I V L D V T G K P 160
acaacaattgaagaggtcttggcaatacacattaaacctggttggaagaaaggcacaaaa 600
  T T I E E V L A I H I K P G W K K G T K 180
atcactttccagagaaaagggaaacatgaacctggagctgcacctggatcttattttt 660
  I T F P E K G N H E P G A A P G D L I F 200
gtaatcgatgaaaagccacatgatgtcttcaagagagatggaaatgatctagtgatcaat 720
  V I D E K P H D V F K R D G N D L V I N 220
cagaaaatctcattagtagatgctctctctgggaagattatcaacttggctactttggat 780
  Q K I S L V D A L S G K I I N L A T L D 240
ggaagggaaactcacgataccaatcacagatggttgaagccaggacatgagcagataatc 840
  G R E L T I P I T D V V K P G H E Q I I 260
gcagatgaaggaatgccaatatcaaaagaacccgggaagaaaggaaatttgaggatcaag 900
  A D E G M P I S K E P G K K G N L R I K 280
tttgaggttaagttcccgtcaaggcttagttcagatcagaaattggatcagaagagtg 960
  F E V K F P S R L S S D Q K L D I R R V 300
ctgggcaggactggtgactaatccagtgcttaacttaagggtatcactaacactgactgat 1020
  L G R T V D - 305
tgtggaagtgcgaatggaatgtaaatacttggaaagtttatgctagacaggagaattgtgc 1080
  atagtaggattattgttttgacgatgcctctcaaagtttagttttatttagcgcataaa 1140
aggagcactctagcagctatgccagctgcctatgtaattctcatggttgatattaacac 1200
  cttaggtagtttactaagtttaagtgtttgatttggaggtagatgctatacttcaagtaa 1260
ttggagtcgggaatagcttgctatcttgttctggttgtgaatttcaactgtgggctgtgg 1320
  tagactggtaatgaataaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa 1371

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## I.2 DNA-Sequenz der kodierenden Region und daraus abgeleitete Aminosäure-Sequenz des Klons *NtCPIP2a* aus *Nicotiana tabacum*.

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atgggacttgattactataacgtactaaaagtatctcggaatgcaagtgaagaagattta 60
M G L D Y Y N V L K V S R N A S E E D L 20
aagagatcgtacaagcgattagctatgaaatggcatccagataagaacagtcagaacaaa 120
K R S Y K R L A M K W H P D K N S Q N K 40
aaagaagcagaagcaaaaattcaagcagatcttctgaagcgtatgatgtgcttagtgatcct 180
K E A E A K F K Q I S E A Y D V L S D P 60
aagaagcgtcagatctatgacgtgtacgggtgatgatgcattgaaatccgggtcaatttgcc 240
Q K R Q I Y D V Y G D D A L K S G Q F A 80
tcggcgtcgcgactagtgctggttagtaacgccagaggggttaggttcaatacgcgtgat 300
S A S P T S A G S N A R G F R F N T R D 100
gcgaggctatTTTTGctgagTTTTcggtggatcgggttagtaattccggtgccggagtc 360
A E A I F A E F F G G S G S N S G A G V 120
ggtcgaagggcggcggcgggtggagaataaactgccgtgtagcttggaggagctttacaaa 420
G R K A A P V E N K L P C S L E E L Y K 140
ggttctagaagaaaaatgaagatctcacggattcttctggatgactctggtaagcctaca 480
G S R R K M K I S R I L L D D S G K P T 160
actgttgaagaggtccttagcgatacacatcaagcctgggttgaagaaaggcacaaaaatc 540
T V E E V L A I H I K P G W K K G T K I 180
actttcccagagaaaggaaactatgagcctggagctactcctgggtgatcttatttttggtg 600
T F P E K G N Y E P G A T P G D L I F V 200
atagatgaaaagccgcgatgctgtcttcaagagggatggaaatgatctggagatcaatcag 660
I D E K P H A V F K R D G N D L E I N Q 220
aaaatttctttactagatgctcttactgggaaaactataagcttgatcactttggatgga 720
K I S L L D A L T G K T I S L I T L D G 240
cgggaactcacataccaatcacagatattgttaaaccaggacatgagcatataatccca 780
R E L T I P I T D I V K P G H E H I I P 260
aatgaaggaatgccaatatcaaaggaacgtggcaagaaaggaaatttgaagatcaagttt 840
N E G M P I S K E R G K K G N L K I K F 280
gacattaaattcccatcaaggctaagtgcagatcagaaatctgatatcaggaggggtactg 900
D I K F P S R L S A D Q K S D I R R V L 300
tgcaggagcgtgactaa 918
C R S A D - 305

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## I.3 DNA-Sequenz der kodierenden Region und daraus abgeleitete Aminosäure-Sequenz des Klons *NtCPIP2b* aus *Nicotiana tabacum*.

```

atgggacttgattactatgacgtactgaaagtatctcggaatgcaagtgaagaagattta 60
M G L D Y Y D V L K V S R N A S E E D L 20
aagagatcgtataagcgattagcgatgaaatggcatccagataagaacagtcagaacaaa 120
K R S Y K R L A M K W H P D K N S Q N K 40
aaggaagctgaagcgaaattcaagcagatcttctgaagcgtatgatgtgcttagtgatcct 180
K E A E A K F K Q I S E A Y D V L S D P 60
cagaagcgtcagatctatgacgtgtacgggtgatgatgcattgaaatccgggtcaatttgct 240
Q K R Q I Y D V Y G D D A L K S G Q F A 80
tcggcgtcgcgactagtgctggttagtaacggcagagggattaggttcaatacgcgtgac 300
S A S P T S A G S N G R G F R F N T R D 100
gcgaggctatTTTTGctgagTTTTcggtggatcggatagtaattccgctgccggagta 360
A E A I F A E F F G G S D S N S A A G V 120
ggtcgaagggcggcaccgggtggagaataaactgccgtgtagcttggaggagctttacaaa 420
G R K A A P V E N K L P C S L E E L Y K 140
ggatctagaagggaaaatgaagatctcacggattcttcttgatgactctggtaagcctaca 480
G S R R K M K I S R I L L D D S G K P T 160

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actgttgaagaggtcctagcgatacacatcaaaccaggttgaagaaaggcacaacaaatc 540
T V E E V L A I H I K P G W K K G T K I 180
actttcccagagaaaggaactatgaacctggagctactcctggatccttattttgtg 600
T F P E K G N Y E P G A T P G D L I F V 200
atagatgaaaagccacatgctgtcttcaagagggatggaaatgatctagtgatcaatcag 660
I D E K P H A V F K R D G N D L V I N Q 220
aaaatatctttactagatgctcttactgggaaaactataagcttgatcactttggatgga 720
K I S L L D A L T G K T I S L I T L D G 240
cgggaactcacaataccaatcacagatggttgttaaaccaggacatgagcatataatccca 780
R E L T I P I T D V V K P G H E H I I P 260
aatgaaggaatgccaatatcaaaggaacgtggcaagaaaggaaatttgaagatcaagttt 840
N E G M P I S K E R G K K G N L K I K F 280
gacattaaattcccacttaggctaagtgcagatcagaaatctgatatcaggagggtactg 900
D I K F P S R L S A D Q K S D I R R V L 300
tgcaggaactctgactaa 918
C R N S D - 305

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#### I.4 DNA-Sequenz und daraus abgeleitete Aminosäure-Sequenz des Capsid Proteins (CP) eines *Potato virus Y* (Stamm N) Feldisolates (vgl. Herbers *et al.*, 1996a)

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gcaaatgcacacaattgatgcaggaggaagctctaagaaagatgcaaaccaagagcaaagt 60
A N D T I D A G G S S K K D A N Q E Q S 20
agcattcaaccaaattcccaacaagagaaagaaaggacgtgaatggttgaacatctgga 120
S I Q P N P N K R K E K D V N V G T S G 40
actcacactgtgccacgaattaaagctatcacgtccaaaatgagaatgcccaagagtaag 180
T H T V P R I K A I T S K M R M P K S K 60
Ggtgcaactgtactaaattagaacatcttactcgagtatgctccacagcaaattgacatc 240
G A T V L N L E H L L E Y A P Q Q I D I 80
tcaaatactcgagcaactcaatcacagtttgatacatgggtatgaagcagtacaacttgca 300
S N T R A T Q S Q F D T W Y E A V Q L A 100
tacgacataggagaaactgaaatgccaaactgtgatgaatgggcttatggtttggatgca 360
Y D I G E T E M P T V M N G L M V W C I 120
gaaaatggaacctcgccaaatatcaatggagtttgggttatgatggatggagatgaacaa 420
E N G T S P N I N G V W V M M D G D E Q 140
atcgaatacccaactaaaaccaatcgttgagaatgcaaaaccaacttaggcaaatcatg 480
I E Y P L K P I V E N A K P T L R Q I M 160
gcacatttctcagatggtgcagaagcgtacatagaaatgcgcaacaaaaaggaaccatac 540
A H F S D V A E A Y I E M R N K K E P Y 180
atgccacgatatggttttagttcgtaatctgcgcgatggaagtttggctcgctatgctttt 600
M P R Y G L V R N L R D G S L A R Y A F 200
gacttttatgaagtacatcacgaacaccagtgagggctagagagggcacacattcaaagt 660
D F Y E V T S R T P V R A R E A H I Q M 220
aaggccgcagcttttaaatcagctcaatctcgacttttcggattggatggtggcatcagt 720
K A A A L K S A Q S R L F G L D G G I S 240
acacaagagggaaaacacagagagggcacaccaccaggatgtttctccaagtatgcatact 780
T Q E E N T E R H T T E D V S P S M H T 260
ctacttggagtcaagaacatg 801
L L G V K N M 267

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## I.5 DNA-Sequenz und abgeleitete Aminosäure-Sequenz des Klons *StSXD1* aus *Solanum tuberosum*.

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gttgccgctcctcaaaaactctacaatcccacctttgatccaaaatcaaccatggagagc 60
                                                                M E S 3
ttttatagtgtttccgccattttctccaatttcgaaaaatgttggattttctaggattagg 120
  F Y S V S A I S P I S K N V G F S R I R 23
accgaatttgcaacttcaattgcaaatggggaactttttttgaataattattcatctact 180
  T E F A T S I A N G E L F L N N Y S S T 43
atcctgaaggtgcagctctcaaaaatcaagacatgcattttgtagtcaaagctgattcatct 240
  I L K V Q S Q K S R H A F V V K A D S S 63
gttgacaccacaaagaaggaaaacagggagcctgtgaaaccgctttactcttctacgcct 300
  V D T T K K E N R E P V K P L Y S S T P 83
tctaatcgtcctcttcgaactcctcatagcgggtatcattttgatggaagtaccaggaaa 360
  S N R P L R T P H S G Y H F D G S T R K 103
ttctttgaagggttggttctttaaggtatcaattccagagtgccagacagagtttctgcttc 423
  F F E G W F F K V S I P E C R Q S F C F 123
atgtattctgtagagagtcctttcatttaccagaataaagcagctttgaggagctgcaa 480
  M Y S V E S P S F T K K L S S F E E L Q 143
tatggtcctcgggttactggtgtgggagctcaaattcttgggtgcagatgacaagtacatt 540
  Y G P R F T G V G A Q I L G A D D K Y I 163
tgtcaatatagtgaagagcttcaaaccttctggggaagttaggcatgaactgatgcttgggt 600
  C Q Y S E E S S N F W G S R H E L M L G 183
aacacctttgttgcccaaaaatagtgtcaaaccccccaataaggaagttcgccctcaggag 660
  N T F V A Q N S A K P P N K E V R P Q E 203
ttcaatcaccgcgctcacagaggggtttcaagtcaccccactttggcatcaaggatctatt 720
  F N H R V T E G F Q V T P L W H Q G S I 223
cgagatgacgggaggacagattatactgaaattgtgaaaactgctagctgggagtatagc 780
  R D D G R T D Y T E I V K T A S W E Y S 243
acacggcccatttatggatggggcgatgttaactcaaagcagaagtccacggcaggatgg 840
  T R P I Y G W G D V N S K Q K S T A G W 263
cctgctgcttttccagatatttgagccacattggcaagtttgcatggcagctggactttca 900
  P A A F P V F E P H W Q V C M A A G L S 283
acaggctggatagagtgggatgggtcagcgggtttgagtttcaaatgccccttcttactcc 960
  T G W I E W D G Q R F E F Q N A P S Y S 303
gaaaagaactgggtggttcccttcccaagaagtgggttttgggtccagtgagtgatgt 1020
  E K N W G S F P R K W F W V Q C S V F 323
gaaggtgcaattggagatggttggcttggactgctggtggtggtggttaaggcgacttccggga 1080
  E G A I G D V A L T A G G G L R R L P G 343
ttgaatgagacttttgaaagtgttgctctgataggaattcactatggaggtatcttctat 1140
  L N E T F E S V A L I G I H Y G G I F Y 363
gaatttgttccatggaatgctagtggttagttgggaaatcactccctggggtaaattggcat 1200
  E F V P W N A S V S W E I T P W G K W H 383
atatctgaggagaatgagacacatatggtattactagaagcaacaacagaagatcctgga 1260
  I S A E N E T H M V L L E A T T E D P G 403
accacattgccccctcctacagaagagatgggactcgctcctgctgtagagacacttgt 1320
  T T L R A P T E E M G L A P A C R D T C 423
ttcgggtgagctaagactgcagttgtgggaacggaagagtaatgggagtaaaggagaggtt 1380
  F G E L R L Q L W E R K S N G S K G E V 443
attttgatgttacaagcaatatggcaggtctagaagttgggggagggccatggttcaac 1440
  I L D V T S N M A G L E V G G G P W F N 463
acatgggagggaaaagcagagatgccggaaattgttactcgagctatcaatgttctctgtg 1500
  T W E G K A E M P E I V T R A I N V P V 483
gatttggatggcatattcagctgtggttcccttctcacttctcaaacctcctggcctttgagca 1560
  D L D G I F S C V P S L L K P P G L - 501
aaaggcaaaaaggagcaactttatggcaaaactagttatagaatgagaatcattatact 1620
tgattacattttgtaaatagcgctcatcttgcctattgacttgtctcaggttgcacctaa 1680
cagtatttttatggaaaatcttattgctagtatagcagaa 1720

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II. Sequenzvergleich von SXD1-Proteinen

StSXD1	MESFY	SVSA	ISPK	NVGF	<b>S</b>	RIRTE	FATS	SIANG	ELFL	NNYS	SS	TI	LKVQ	<b>S</b>	QKSR	HAFV	VKA	60																																											
AtSXD1	MEIR	SLIV	MNPN	LSS	FELS	SRP							VSPL	TRS	LV	PF	RS	TKLV	PR	SI	SRV	46																																							
ZmSXD1			MNLA	VAAA	ALP	<b>S</b>							VT	PR	TG	VV	LPR	<b>S</b>	RR	HC	PR	GV	VPR	35																																					
TeSXD1																								0																																					
NoSXD1																								0																																					
SySXD1																								0																																					
StSXD1	DS	<b>S</b>	VDT	TK	-KEN	REP	VK	<b>P</b>	<b>L</b>	<b>Y</b>	<b>S</b>	<b>S</b>	<b>T</b>	<b>P</b>	<b>S</b>	NR	FL	RL	TP	HS	GY	H	FD	G	S	T	R	K	F	F	E	G	W	F	<b>F</b>	<b>K</b>	<b>V</b>	<b>S</b>	I	<b>P</b>	<b>E</b>	<b>C</b>	<b>R</b>	<b>Q</b>	119																
AtSXD1	SAS	I	S	T	P	N	S	E	T	D	K	I	S	V	K	<b>P</b>	<b>V</b>	<b>Y</b>	<b>V</b>	<b>P</b>	<b>T</b>	<b>S</b>	<b>P</b>	<b>N</b>	<b>R</b>	<b>E</b>	<b>L</b>	<b>R</b>	<b>T</b>	<b>P</b>	<b>H</b>	<b>S</b>	<b>G</b>	<b>Y</b>	<b>H</b>	<b>F</b>	<b>D</b>	<b>G</b>	<b>T</b>	<b>P</b>	<b>R</b>	<b>K</b>	<b>F</b>	<b>F</b>	<b>E</b>	<b>G</b>	<b>W</b>	<b>F</b>	<b>R</b>	<b>V</b>	<b>S</b>	<b>I</b>	<b>P</b>	<b>E</b>	<b>K</b>	<b>R</b>	106				
ZmSXD1	AA	<b>S</b>	S	V	S	S	F	T	S	P	S	A	A	A	<b>A</b>	<b>P</b>	<b>I</b>	<b>Y</b>	<b>T</b>	<b>P</b>	<b>T</b>	<b>P</b>	<b>Q</b>	<b>D</b>	<b>R</b>	<b>S</b>	<b>L</b>	<b>R</b>	<b>T</b>	<b>P</b>	<b>H</b>	<b>S</b>	<b>G</b>	<b>Y</b>	<b>H</b>	<b>F</b>	<b>D</b>	<b>G</b>	<b>T</b>	<b>A</b>	<b>R</b>	<b>P</b>	<b>F</b>	<b>F</b>	<b>E</b>	<b>G</b>	<b>W</b>	<b>F</b>	<b>K</b>	<b>V</b>	<b>S</b>	<b>I</b>	<b>P</b>	<b>E</b>	<b>C</b>	<b>R</b>	<b>Q</b>	95			
TeSXD1																																																							37						
NoSXD1																																																							41						
SySXD1																																																						32							
StSXD1	SFC	F	M	Y	S	V	E	S	<b>P</b>	<b>S</b>	<b>F</b>	<b>T</b>	<b>K</b>	<b>K</b>	<b>L</b>	<b>S</b>	<b>S</b>	<b>F</b>	<b>E</b>	<b>E</b>	<b>L</b>	<b>Q</b>	<b>Y</b>	<b>G</b>	<b>P</b>	<b>R</b>	<b>F</b>	<b>T</b>	<b>G</b>	<b>V</b>	<b>G</b>	<b>A</b>	<b>Q</b>	<b>I</b>	<b>L</b>	<b>G</b>														171											
AtSXD1	SFC	F	M	Y	S	V	E	N	<b>P</b>	<b>A</b>	<b>F</b>	<b>R</b>	<b>Q</b>	<b>S</b>	<b>L</b>	<b>S</b>	<b>P</b>	<b>L</b>	<b>E</b>	<b>V</b>	<b>A</b>	<b>L</b>	<b>Y</b>	<b>G</b>	<b>P</b>	<b>R</b>	<b>F</b>	<b>T</b>	<b>G</b>	<b>V</b>	<b>G</b>	<b>A</b>	<b>Q</b>	<b>I</b>	<b>L</b>	<b>G</b>																158									
ZmSXD1	SFC	F	M	Y	S	V	E	N	<b>P</b>	<b>L</b>	<b>F</b>	<b>R</b>	<b>D</b>	<b>G</b>	<b>M</b>	<b>S</b>	<b>D</b>	<b>L</b>	<b>D</b>	<b>K</b>	<b>L</b>	<b>L</b>	<b>Y</b>	<b>R</b>	<b>P</b>	<b>R</b>	<b>F</b>	<b>T</b>	<b>G</b>	<b>V</b>	<b>G</b>	<b>A</b>	<b>Q</b>	<b>I</b>	<b>L</b>	<b>G</b>																147									
TeSXD1	TFA	F	M	Y	S	I	E	D	<b>P</b>																																																77				
NoSXD1	TFA	F	M	Y	S	I	E	D	<b>P</b>																																														81						
SySXD1	SFA	F	M	Y	S	I	E	N	<b>P</b>																																														80						
StSXD1	NFW	G	S	R	H	E	L	M	L	G	N	T	F	V	A	<b>Q</b>	<b>N</b>	<b>S</b>	<b>A</b>	<b>K</b>	<b>P</b>	<b>N</b>	<b>K</b>	<b>E</b>	<b>V</b>	<b>R</b>	<b>P</b>	<b>E</b>	<b>F</b>	<b>N</b>	<b>H</b>	<b>R</b>	<b>V</b>	<b>T</b>	<b>E</b>	<b>G</b>	<b>F</b>	<b>Q</b>	<b>V</b>	<b>T</b>	<b>P</b>	<b>L</b>	<b>W</b>	<b>H</b>	<b>Q</b>	<b>S</b>	<b>I</b>	<b>R</b>	<b>D</b>	<b>D</b>	<b>G</b>	<b>R</b>	<b>T</b>	<b>D</b>	<b>Y</b>	231					
AtSXD1	NFW	G	D	R	H	E	L	V	L	G	N	T	F	S	A	V	P	G	A	K	A	<b>P</b>	<b>N</b>	<b>K</b>	<b>E</b>	<b>V</b>	<b>E</b>	<b>E</b>	<b>F</b>	<b>N</b>	<b>R</b>	<b>R</b>	<b>V</b>	<b>S</b>	<b>E</b>	<b>G</b>	<b>F</b>	<b>Q</b>	<b>A</b>	<b>T</b>	<b>P</b>	<b>F</b>	<b>W</b>	<b>H</b>	<b>Q</b>	<b>H</b>	<b>I</b>	<b>C</b>	<b>D</b>	<b>D</b>	<b>G</b>	<b>R</b>	<b>T</b>	<b>D</b>	<b>Y</b>	218					
ZmSXD1	NFW	G	S	R	H	E	L	M	L	G	N	T	F	I	S	N	K	E	S	T	<b>P</b>	<b>P</b>	<b>Q</b>	<b>G</b>	<b>E</b>	<b>V</b>	<b>P</b>	<b>Q</b>	<b>D</b>	<b>F</b>	<b>S</b>	<b>R</b>	<b>R</b>	<b>V</b>	<b>L</b>	<b>E</b>	<b>G</b>	<b>L</b>	<b>Q</b>	<b>V</b>	<b>T</b>	<b>P</b>	<b>I</b>	<b>W</b>	<b>H</b>	<b>Q</b>	<b>F</b>	<b>I</b>	<b>R</b>	<b>D</b>	<b>D</b>	<b>G</b>	<b>R</b>	<b>S</b>	<b>N</b>	<b>Y</b>	207				
TeSXD1	KFW	A	T	P	E	V	L	E	L	G																																															135				
NoSXD1	KFW	A	S	P	D	V	L	A	L	G																																													139						
SySXD1	KFW	A	S	P	R	Q	F	A	L	G																																													136						
StSXD1	T	E	I	V	K	T	A	S	W	E	Y	S	T	R	P	I	Y	G	W	G	D	V	N	S	K	Q	K	S	T	A	G	W	P	A	A	F	P	V	F	E	P	H	W	Q	V	C	M	A	A	G	L	S	T	G	W	I	E	W	D	G	291
AtSXD1	A	E	T	V	K	S	A	R	W	E	Y	S	T	R	P	V	Y	G	W	G	D	V	G	A	K	Q	K	S	T	A	G	W	P	A	A	F	P	V	F	E	P	H	W	Q	I	C	M	A	A	G	L	S	T	G	W	I	E	W	G	G	278
ZmSXD1	V	P	N	V	Q	T	A	R	W	E	Y	S	T	R	P	V	Y	G	W	G	D	V	K	S	K	Q	L	S	T	A	G	W	L	A	A	F	P	F	F	E	P	H	W	Q	I	C	M	A	A	G	L	S	T	G	W	I	E	W	D	G	267
TeSXD1	R	I	Y	K	F	T	N	A	P	A	Y	S	E	K	N	W	G	A	F	P	K	K	F	W	L	N	C	N	S	F	Y	D	V	S	-	D	L	T	L	T	A	G	G	K	R	-	-	G	V	L	W	M	E	K	V	245					
NoSXD1	K	I	Y	Q	F	Q	N	A	P	A	Y	S	E	K	N	W	G	A	F	P	E	K	W	F	L	N	C	N	S	F	D	G	E	P	-	D	L	A	L	T	A	G	G	R	R	-	-	G	V	L	W	M	E	S	V	249					
SySXD1	E	Q	Y	E	F	D	H	A	L	V	Y	A	E	K	N	W	G	H	S	F	P	S	R	W	F	W	L	Q	A	N	Y	F	P	D	H	P	-	G	L	S	V	T	A	A	G	G	E	R	-	-	I	V	L	G	R	P	E	E	V	246	
StSXD1	A	L	I	G	I	H	Y	G	I	F	Y	E	F	V	P	W	N	A	S	V	S	W	E	I	T	P	W	G	K	W	H	I	S	A	E	N	E	T	H	M	V	L	L	E	A	T	T	E	D	P	G	T	T	L	R	A	P	T	E	411	
AtSXD1	A	L	V	C	V	H	D	G	K	M	Y	E	F	V	P	W	N	G	V	R	W	E	M	S	P	W	G	Y	W	I	T	A	E	N	E	N	H	V	E	L	E	A	R	T	N	E	A	G	T	P	L	R	A	P	T	I	398				
ZmSXD1	S	L	I	G	I	H	Y	E	G	Q	F	F	E	F	V	P	W	T	G	T	V	S	W	I	E	I	G	L	W	L	W	K	M	S	G	E	N	K	T	H	L	V	E	I	E	A	T	A	E	S	G	T	A	L	R	A	P	T	I	386	
TeSXD1	A	M	I	G	I	H	Y	Q	G	K	F	Y	E	F	V	P	W	N	S	K	V	Y	W	Q	I	Q	P	W	G	E	W	Q	M	Q	A	K	N	D	L	F	E	V	E	L	T	A	T	T	N	H	S	G	T	L	R	A	P	S	E	305	
NoSXD1	A	M	I	G	L	H	Y	Q	G	K	F	Y	E	F	V	P	W	N	S	K	V	E	W	N	I	Q	P	W	G	R	W	Q	M	K	A	K	N	D	L	Y	E	V	E	L	T	G	T	T	H	L	P	G	T	D	L	R	A	P	T	V	309
SySXD1	A	L	I	G	L	H	H	Q	G	N	F	Y	E	F	G	P	G	H	G	T	V	T	W	Q	V	A	P	W	G	R	W	Q	L	K	A	S	N	D	R	Y	W	V	K	L	S	G	K	T	D	K	K	G	S	L	V	H	T	P	T	A	306
StSXD1	E	M	G	L	A	P	A	C	R	D	T	C	F	G	E	L	R	L	Q	L	W	E	R	<b>K</b>	<b>S</b>	<b>N</b>	<b>G</b>	<b>S</b>	<b>K</b>	<b>G</b>	<b>E</b>	<b>V</b>	<b>I</b>	<b>L</b>	<b>D</b>	<b>V</b>	<b>T</b>	<b>S</b>	<b>N</b>	<b>M</b>	<b>A</b>	<b>G</b>	<b>L</b>	<b>E</b>	<b>V</b>	<b>G</b>	<b>G</b>	<b>G</b>	<b>P</b>	<b>W</b>	<b>F</b>	<b>N</b>	<b>T</b>	<b>W</b>	<b>E</b>	<b>G</b>	<b>-</b>	<b>K</b>	<b>A</b>	<b>E</b>	<b>470</b>
AtSXD1	E	V	G	L	A	T	A	C	R	D	S	C	Y	G	E	L	K	L	Q	I	W	E	R	L	<b>Y</b>	<b>D</b>	<b>G</b>	<b>S</b>	<b>K</b>	<b>G</b>	<b>K</b>	<b>V</b>	<b>I</b>	<b>L</b>	<b>E</b>	<b>T</b>	<b>R</b>	<b>S</b>	<b>M</b>	<b>A</b>	<b>A</b>	<b>V</b>	<b>E</b>	<b>I</b>	<b>G</b>	<b>G</b>	<b>P</b>	<b>W</b>	<b>F</b>	<b>G</b>	<b>T</b>	<b>W</b>	<b>X</b>	<b>G</b>	<b>D</b>	<b>T</b>	<b>S</b>	<b>N</b>	<b>458</b>		
ZmSXD1	E	A	G	L	V	P	A	C	K	D	T	C	Y	G	D	L	R	L	Q	L	W	E	K	<b>K</b>	<b>Y</b>	<b>D</b>	<b>G</b>	<b>S</b>	<b>K</b>	<b>G</b>	<b>E</b>	<b>M</b>	<b>I</b>	<b>L</b>	<b>D</b>	<b>A</b>	<b>T</b>	<b>S</b>	<b>N</b>	<b>M</b>	<b>A</b>	<b>A</b>	<b>L</b>	<b>E</b>	<b>V</b>	<b>G</b>	<b>G</b>	<b>P</b>	<b>W</b>	<b>F</b>	<b>N</b>	<b>G</b>	<b>W</b>	<b>K</b>	<b>G</b>	<b>-</b>	<b>T</b>	<b>T</b>	<b>V</b>	<b>445</b>	
TeSXD1	Q	-	G	L	I	F	L	C	R	D	T	M	R	G	H	L	T	L	K	L	K	E	<b>V</b>	<b>R</b>	-	-	<b>D</b>	<b>S</b>	<b>H</b>																																

### III. Oligonukleotide

<i>Bezeichnung</i>	<i>Sequenz</i>	<i>Verwendung</i>
D44	5'-AT GAA TTC GCA AAT GAC ACA ATT GAT GC-3'	5'-Primer PVY CP für pGBT9
D45	5'-AT GTC GAC CAT GTT CTT GAC TCC AAG TAG-3'	3'-Primer PVY CP für pGBT9
D83	5'-AT GGA TCC AAA CA ATG GCA ATG TCA ATG GTG GTG TAC-3'	5'-Primer MP17 für pUC- <i>alcA</i>
D84	5'-AT GGA TCC TTA TCA TCC GCG CTT GAT AAG-3'	3'-Primer MP17 für pUC- <i>alcA</i>
D85	5'-AT GGA TCC TTA TTT GTA TAG TTC ATC CAT GC'-3'	3'-Primer mGFP5 für pUC- <i>alcA</i>
D117	5'-GAA TTC AGT GGC ACT GTG GAT GCT GGT GCT G-3'	5'-Primer TEV CP für pGBT9
D118	5'-GGA TCC TCA CTG GCG GAC CCC TAA TAG TGT G-3'	3'-Primer TEV CP für pGBT9
D126	5'-TGC ATT GAA AAT GGA ACC TGG CCA AAT ATC AAT GGA GTT-3'	fwd*-Primer für S125W Substitution
D127	5'-AAC TCC ATT GAT ATT TGG CCA GGT TCC ATT TTC AAT GCA-3'	rev**-Primer für S125W Substitution
D128	5'-AAT GCA AAA CCA ACA CTT GAC CAA ATC ATG GCA CAT TTC-3'	fwd-Primer für R157D Substitution
D129	5'-GAA ATG TGC CAT GAT TTG GTC AAG TGT TGG TTT TGC ATT-3'	rev-Primer für R157D Substitution
D130	5'-TTG GCT CGC TAT GCT TTT AGG TTT TAT GAA GTC ACA TCA-3'	fwd-Primer für D201R Substitution
D131	5'-TGA TGT GAC TTC ATA AAA CCT AAA AGC ATA GCG AGC CAA-3'	rev-Primer für D201R Substitution
D134	5'-GAA TTC AAG GAA AAG GAC GTG AAT GTT GG-3'	5'-Primer PVY CPΔ29N für pGBT9
D135	5'-GTC GAC GTG CCT CTC TGT GTT TTC CTC TTG-3'	3'-Primer PVY CPΔ18C für pGBT9
D153	5'-GGA TCC CAG AAA ATC TCA TTA GTA GAT GC-3'	5'-Primer NtCPIP1 für pUC-RNAi
D154	5'-GTC GAC ATT CAT TAC CAG TCT ACC ACA GC-3'	3'-Primer NtCPIP1 für pUC-RNAi
D172	5'-GGA TCC TCA CGC AAT GCG AGT GAA GAA G-3'	5'-Primer NtCPIP1 für RT-PCR
D184	5'-GGA TCC GGG AGC TCA AAT TCT TGG TGC AGA TG-3'	5'-Primer StSXD1 für pUC-RNAi
D185	5'-GTC GAC AAT GTG GTT CCA TGA TCT TTT GAA G-3'	3'-Primer StSXD1 für pUC-RNAi
D202	5'-ATGGCAGACGGTGAGGATATTCA-3'	5'-Primer Actin AC1 für RT-PCR
D203	5'-GCCTTTGCAATCCACATCTGTTG-3'	3'-Primer Actin AC2 für RT-PCR
D227	5'-GAA TTC TCT CGG AAT GCA AGT GAA GAA G-3'	5'-Primer NtCPIP2a/bΔ11 für pAD-GAL4
D230	5'-GTC GAC TTA GTC AGC GCT CCT GCA CAG TAC-3'	3'-Primer NtCPIP2a für pAD-GAL4
D231	5'-GTC GAC TTA GTC AGA GTT CCT GCA CAG TAC-3'	3'-Primer NtCPIP2b für pAD-GAL4
D235	5'-AT CAT ATG AGT GAT ACA GTA GAT GCT GGG-3'	5'-Primer TVMV CP für pGBKT7
D236	5'-AT CAT ATG GCA GGT GAA ACG CTT GAC GCA GAC -3'	5'-Primer TuMV CP für pGBKT7
D237	5'- AT GTC GAC TTA CAC CCC CTT AAC ACC CAG AAG-3'	3'-Primer TVMV CP für pGBKT7
D238	5'-AT GTC GAC TCA TAA CCC CTG AAC GCC CAG C-3'	3'-Primer TuMV CP für pGBKT7
D239	5'-CAT ATG GCC GAA ACT CTT GAT GCA AGC G-3'	5'-Primer PVA CP für pGBKT7
D240	5'-GAA TTC GCC GAA ACT CTT GAT GCA AGC G-3'	5'-Primer PVA CP für pGBKT7
D261	5'-GAA TTC TCA CGC AAT GCG AGT GAA GAA G-3'	5'-Primer NtCPIP1Δ11N für pAD-GAL4
D262	5'-GAA TTC ATA TAC GGC GAT GAG GCG TTG-3'	5'-Primer NtCPIP1Δ65N für pAD-GAL4
D263	5'-GAA TTC ACT GGT GGT ACT GTA CGG ATT AGG-3'	5'-Primer NtCPIP1Δ115N für pAD-GAL4
D264	5'-GTC GAC TTA GTC AAC AGT CCT GCC CAG CAC-3'	3'-Primer NtCPIP1 für pAD-GAL4
D265	5'-GTC GAC ATG TCC TGG CTT AAC AAC ATC TGT G-3'	3'-Primer NtCPIP1Δ50C für pAD-GAL4
D266	5'-GTC GAC TGG CTT TTC ATC GAT TAC AAA AAT-3'	3'-Primer NtCPIP1Δ100C für pAD-GAL4
D278	5'-AGT TGC CGC TCC TCA AAA ACT CTA CAW TCC-3'	5'-Primer StSXD1 für pCR2.1
D279	5'-TTC TGC TAT ACT AGC AAT AAG ATT TTC CAT-3'	3'-Primer StSXD1 für pCR2.1
D280	5'-CGA ACT CCT CAT AGC GGG TAT C'-3'	fwd-Sequenzierprimer StSXD1
D281	5'-AAT CGC CGC GTC ACA GAG GGT-3'	fwd-Sequenzierprimer StSXD1
D282	5'-GGT GCA ATT GGA GAT GTT GCT-3'	fwd-Sequenzierprimer StSXD1
D283	5'-CTG CAG TTG TGG GAA CGG AAG-3'	fwd-Sequenzierprimer StSXD1
D284	5'-TCG AGT AAC AAT TTC CGG CAT-3'	rev-Sequenzierprimer StSXD1
D285	5'- AGC AAC ATC TCC AAT TGC ACC-3'	rev-Sequenzierprimer StSXD1

<b>D286</b>	5'-ACC CTC TGT GAC GCG GCG ATT-3'	rev-Sequenzierprimer StSXD1
<b>D287</b>	5'-G ATA CCC GCT ATG AGG AGT TCG-3'	rev-Sequenzierprimer StSXD1
<b>D290</b>	5'-GGG ATC CGG ACT CCT CAT AGC GGG TAT CAT TTT G-3'	5'-Primer StSXD1ΔTP für pQE11
<b>D291</b>	5'-GTC GAC TCA AAG GCC AGG AGG TTT GAG AAG TGA AG-3'	3'-Primer StSXD1ΔTP für pQE11
<b>D292</b>	5'-GGG ATC CCC ATG GAG AGC TTT TAT AGT GTT TCC GC-3'	5'-Primer StSXD1 für pQE11
<b>D302</b>	5'-GAA TTC AAG TTC GAT TCG CGT GAT GCG GAA GAT -3'	5'-Primer NtCPIP1Δ90N für pAD-GAL4
<b>D303</b>	5'-GTC GAC AAA CTT GAT CCT CAA ATT TCC TTT CTT C-3'	3'-Primer NtCPIP1Δ25C für pAD-GAL4
<b>StSXD1-5'RACE</b>	5'-CTC TGT GAC GCG GCG ATT GAA CTC CTG AGG-3'	5'-RACE Primer StSXD1
<b>StSXD1-3'RACE</b>	5'-GGA TTA AGG CGA CTT CCG GGA TTG AAT GAG-3'	3'-RACE Primer StSXD1
<b>SMARTII 3'-RACE CDS</b>	5'-AAG CAG TGG TAT CAA CGC AGA GTA CGC GGG-3''	Primer Smart RACE-Kit, Clontech
<b>5'-RACE CDS</b>	5'-AAG CAG TGG TAT CAA CGC AGA GTA C(T) <sub>30</sub> N <sub>1</sub> N-3'	Primer Smart RACE-Kit, Clontech
<b>UPM</b>	5'-(T) <sub>25</sub> N <sub>1</sub> N-3'	Primer Smart RACE-Kit, Clontech
<b>NUP</b>	5'-CTA ATA CGA CTC ACT ATA GGG C-3'	Universal-Primer, Erststrangsynthese
<b>Oligo-dT</b>	5'-AAG CAG TGG TAT CAA CGC AGA GT-3'	Nested Universal-Primer
	5'-(T) <sub>30</sub> N <sub>1</sub> -3'	Oligo-dT-Primer für Reverse Transkription

\*fwd, "forward"; \*\*rev, "reverse"; N<sub>1</sub> = A, G, oder C; N = A, C, G, oder T