

## Section 1

|              | (1) | 1        | 10     | 20                  | 30                  | 40               | 50        | 60         |
|--------------|-----|----------|--------|---------------------|---------------------|------------------|-----------|------------|
| Ath GID1a    | (1) | MAASDEVN | LIESRT | TVVPLNTWVLISNFKV    | AYNI                | LRRPDGTFNRH      | LAEYLDKRV | TAN--AN    |
| Ath GID1b    | (1) | MAGGNEVN | LNECKR | IVPLNTWVLISNFKLAY   | KVLRRPDGSFNRD       | LAEFLDRKVPAN     | --SF      |            |
| Ath GID1c    | (1) | MAGSEEVN | LIESKT | TVVPLNTWVLISNFKLAY  | NLLRRPDGTFNRH       | LAEFLDRKVPAN     | --AN      |            |
| Rice GID1    | (1) | MAGSDEVN | RNECKT | TVVPLHTWVLISNFKLSYN | ILRRADGTFERD        | LGEYLDKRV        | PAN--AR   |            |
| Pine TC73510 | (1) | MASDDY   | GFNEAK | MVVPLNTFVLISNFKLVYN | LLRRPDGTFNRH        | LAEFLDRK         | APAN--AT  |            |
| Sm 1582286_1 | (1) | -----    | PLAFFA | QEVVPLNTWVLISNL     | KLAYNLTRNSDGSFNRNL  | DEFLDRKVP        | VSSVER    |            |
| Pp 12981     | (1) | -----    | -----  | MASMMQLRL           | LCKVVVKANDLAQRKDGT  | INRWLADVCERKVPAN | --PK      |            |
| At5g23530    | (1) | MATDSQPN | ---    | QKLTLP              | LKTRIALTVISTMTDNAQR | PDGTINRRFLRL     | FD        | FRAPPN--PK |

## Section 2

|              | (61) | 61                         | 70               | 80                 | 90         | 100     | 110    | 120     |      |      |   |
|--------------|------|----------------------------|------------------|--------------------|------------|---------|--------|---------|------|------|---|
| Ath GID1a    | (59) | PVDGVFSFDVLIDRRINLLSRVYRPA | YADQ-----EQPPSIL | DLEKPV             | DG-DIV     | PVILF   |        |         |      |      |   |
| Ath GID1b    | (59) | PLDGVFSFDHVD               | S-TTNLLTRIYQ     | PASLLH-----QTRHGTL | ELTKPL     | STTEIV  | PVLIF  |         |      |      |   |
| Ath GID1c    | (59) | PVNGVFSFDVIIDRQT           | NLLSRVYRPA       | DAG-----TSPSIT     | DLQNP      | VVG-EIV | PVIVF  |         |      |      |   |
| Rice GID1    | (59) | PLEGVSSFDHIIDQ             | SVGLEVRIYRAAAEG  | DAEEGAAVTRPIL      | EFLTD      | APAAEP  | PVVIIF |         |      |      |   |
| Pine TC73510 | (59) | AVSGVFSLDVVMDR             | DGLWSRIYTP       | VGATS-----         | -----      | DSAANA  | AGLP   | VIIF    |      |      |   |
| Sm 1582286_1 | (55) | EDD                        | EVTFMDVTIDRT     | SGIWSRIFIP         | RASHN----- | -----   | NNAS   | STTHGTP | IFFY |      |   |
| Pp 12981     | (46) | PIKGVHTVDVTID              | PEAGVWVRLFI      | PTEETVE-----       | -----      | TPSKSAS | NDTQT  | ESNKT   | MP   | IVYY |   |
| At5g23530    | (56) | PVNI                       | VSTSDFVVDQSR     | DLWFR              | LYTPHVS    | G-----  | -----  | D--     | KIP  | VVV  | F |

## Section 3

|                    | (121) | 121        | 130          | 140       | 150            | 160           | 170      | 180             |
|--------------------|-------|------------|--------------|-----------|----------------|---------------|----------|-----------------|
| Ath GID1a (112)    | FHGG  | SFAHSSANS  | AIYDTLCRRLV  | GLCKC     | VVVSVNYRRAPEN  | FYP           | CAYDDGW  | IALNWVNS        |
| Ath GID1b (112)    | FHGG  | SFTTHSSANS | AIYDTLCRRLVT | ICGVVVSV  | DYRRS          | PEHRYPCAYDDGW | NALNWVKS |                 |
| Ath GID1c (110)    | FHGG  | SFAHSSANS  | AIYDTLCRRLV  | GLCG      | AVVVSVNYRRAPEN | NRYP          | CAYDDGW  | AVLKWVNS        |
| Rice GID1 (119)    | FHGG  | SFVHSSA    | SSSTIYDSL    | CRRFVKLSK | GVVVSVNYRRAP   | EHRYPCAYDDGW  | TALKWVMS |                 |
| Pine TC73510 (103) | FHGG  | SFAHSSANS  | AIYDVLCRH    | ESSEFCS   | ATVVSVNYRRAP   | EHITYP        | AFYEDGW  | TALRWVTS        |
| Sm 1582286_1 (100) | FHGG  | SFVHMSANS  | AVYHTVC      | QQLARLC   | QAVVISVNYRRAP  | EHKYP         | AAAYND   | CYAALTWLKV      |
| Pp 12981 (100)     | YHGG  | GFTILCP    | DFYLYDVF     | CRRLAKCCK | SVVISLH        | YRRAP         | EKFEP    | TAYDDSFKGLEWLQS |
| At5g23530 (93)     | FHGG  | GFAFLSP    | NAYPYD       | NVCRRF    | ARKLPAY        | VISVNYRLA     | PEHRYPA  | QYDDGFDALKYIEE  |

## Section 4

|                    | (181) | 181 | 190 | 200 | 210 | 220 | 230 | 240 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |       |       |       |   |     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------------------|-------|-----|-----|-----|-----|-----|-----|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------|-------|-------|---|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ath GID1a (172)    | ----- | R   | S   | W   | L   | K   | S   | K   | K | D | S | K | V | H | I | F | L | A | G | D | S | S | G | G | N | I | A | H | N | V | A | L | R | A | G | E | S     | ----- | G     | I | D   | V | L | G | N | I | L | N |   |   |   |   |   |   |   |   |   |   |
| Ath GID1b (172)    | ----- | R   | V   | W   | L   | Q   | S   | G   | K | D | S | N | V | Y | V | Y | L | A | G | D | S | S | G | G | N | I | A | H | N | V | A | V | R | A | T | N | E     | ----- | G     | V | K   | V | L | G | N | I | L | H |   |   |   |   |   |   |   |   |   |   |
| Ath GID1c (170)    | ----- | S   | S   | W   | L   | R   | S   | K   | K | D | S | K | V | R | I | F | L | A | G | D | S | S | G | G | N | I | V | H | N | V | A | V | R | A | V | E | S     | ----- | R     | I | D   | V | L | G | N | I | L | N |   |   |   |   |   |   |   |   |   |   |
| Rice GID1 (179)    | ----- | Q   | P   | F   | M   | R   | S   | G   | G | D | A | Q | A | R | V | F | L | S | G | D | S | S | G | G | N | I | A | H | V | A | V | R | A | A | D | E | ----- | G     | V     | K | V   | C | G | N | I | L | N |   |   |   |   |   |   |   |   |   |   |   |
| Pine TC73510 (163) | PAA   | --- | R   | P   | W   | L   | R   | H   | E | V | D | T | E | R | Q | L | F | L | A | G | D | S | S | G | G | N | I | V | H | H | V | A | R | R | A | G | E     | T     | ----- | G | I   | H | V | A | G | N | I | L | N |   |   |   |   |   |   |   |   |   |
| Sm 1582286_1 (160) | QV    | L   | R   | G   | V   | A   | H   | A   | W | L | P | R | T | A | D | L | G | - | R | C | F | L | V | G | D | S | N | G | G | N | I | V | H | H | V | G | V     | R     | A     | A | E   | S | G | - | A | E | L | G | P | L | R | V | A | G | H | I | L | I |
| Pp 12981 (160)     | EK    | --- | A   | T   | A   | S   | L   | P   | L | N | V | D | F | S | - | R | V | F | L | C | G | D | S | A | G | A | N | I | A | Y | H | M | A | L | Q | S | A     | R     | K     | D | --- | L | G | R | V | S | L | K | G | V | I | I | Q |   |   |   |   |   |
| At5g23530 (153)    | N     | --- | H   | G   | S   | I   | L   | P   | A | N | A | D | L | S | - | R | C | F | F | A | G | D | S | A | G | G | N | I | A | H | N | V | A | I | R | I | C     | R     | E     | P | R   | S | S | F | T | A | V | K | L | I | G | L | I | S | I | Q |   |   |

## Section 5

|                    | (241)  | 241    | 250    | 260      | 270   | 280        | 290    | 300                      |
|--------------------|--------|--------|--------|----------|-------|------------|--------|--------------------------|
| Ath GID1a (219)    | PMFGGN | ERT    | ESEKS  | LDGKYFVT | VRDRD | WYKFAFL    | PEGED  | RHPACNPFSPRGKSLEGVSE     |
| Ath GID1b (219)    | PMFGGQ | ERTQ   | SEKTL  | LDGKYFVT | IQDRD | WYWRAYL    | PEGED  | RDHPACNPFSGPRGQSLKGVNF   |
| Ath GID1c (217)    | PMFGGT | ERT    | ESEKRL | DGKYFVT  | VRDRD | WYWR AFL   | PEGED  | RHPACSPFGPRSKSLEGLSF     |
| Rice GID1 (226)    | AMFGGT | ERT    | ESERR  | LDGKYFVT | LQDRD | WYWKAYL    | PEAD   | RDHPACNPFSGPNGRRLLGGLPF  |
| Pine TC73510 (213) | PMFGGE | QRT    | ESERR  | LDGKYFVT | IRDRD | WYWN AFL   | PAGAN  | RDHPACNPFSGPHGPRLEEIF    |
| Sm 1582286_1 (218) | PMFGGN | RRTQ   | SELRF  | DGQYFVT  | IKDRD | FYWQS      | SFLPAG | ADRDHPACNIFGPNSSRSLEGVVL |
| Pp 12981 (212)     | GFFGGE | EERT   | PAEL   | R LKNVPL | VSVES | L DWYWKSY  | LPKGSN | RDHPACNIFGPNSSDLSDVSL    |
| At5g23530 (207)    | PFFGGE | EERTEA | EKOL   | VGAPL    | VSPDR | TDW CWKAMG | ---    | LNRDHEAVNVGGPN AVDISGLDY |

## Section 6

|                    | (301)          | 301                     | 310                    | 320        | 330    | 340 | 350 | 360 |
|--------------------|----------------|-------------------------|------------------------|------------|--------|-----|-----|-----|
| Ath GID1a (279)    | PKSLVVVAGLDLIR | DWQLAYAEGLKKAGQ         | EVKLMHLEKATVGFYLLPNNNH | FHNVMDEIS  |        |     |     |     |
| Ath GID1b (279)    | PKSLVVVAGLDLVQ | DWQLAYVDGLKKTGL         | EVNLLYLKQATIGFYELPNDH  | FHCLMEELN  |        |     |     |     |
| Ath GID1c (277)    | PKSLVVVAGLDLIQ | DWQLKYAEGLKKAGQ         | EVKLLYLEQATIGFYLLPNNNH | FHTVMDEIA  |        |     |     |     |
| Rice GID1 (286)    | AKSLIIVSGLDLTC | DRQLAYADALREDG          | HHVKVVQCENATVGFYLLPNTV | HYHEVMEEIS |        |     |     |     |
| Pine TC73510 (273) | PKSLVVVAGLDLLQ | DWRNYAEELRRAGKEVKLMFLEQ | TTIGFYLLPNTDLFF        | NVMGEIK    |        |     |     |     |
| Sm 1582286_1 (278) | PPSLVAVAGLDMIK | DWQLQYVEGMRNAGKDV       | ELLFLEEATVGGFFIE       | PNTGFHFR   | LMDKIT |     |     |     |
| Pp 12981 (272)     | PPFLNIVGGLDILQ | DWEMRFAEGLQKAGKQVQT     | IFYEEGIYTFALLN         | QAKVGPKM   | FDPVA  |     |     |     |
| At5g23530 (264)    | PETMVVVAGFDPLK | DWQRSYYEWLKLCGKKATL     | IEYPNMFHAFYIF          | PELPEAGQ   | LIMRIK |     |     |     |

## Section 7

|                    | (361) | 361             | 370     | 387   |
|--------------------|-------|-----------------|---------|-------|
| Ath GID1a (339)    | AFVNA | EC              | -----   | ----- |
| Ath GID1b (339)    | KFVHS | IEDSQSKSSPVLLTP | -----   | ----- |
| Ath GID1c (337)    | AFVNA | ECQ             | -----   | ----- |
| Rice GID1 (346)    | DFLN  | ANLYY           | -----   | ----- |
| Pine TC73510 (333) | RFVNG | NGNGNGNGNT      | EEEGNGA | ENSVN |
| Sm 1582286_1 (338) | AFIDR | DGDQHLTRRTG     | ITRRTTT | ---   |
| Pp 12981 (332)     | AFINS | H               | -----   | ----- |
| At5g23530 (324)    | DFVD  | ERVASLSA        | -----   | ----- |