### Supplementary Fig. S4c

|    | RecYCD4.1 | AtCYCD4.1 | Consistency |
|----|-----------|-----------|-------------|
| 1  | MAPSFDALS | MA-------- |             |
| 2  | SLLCTEDNS | SS--------- |             |
| 3  | IFDDINTDYH | D--------- |             |
| 4  | GVGVGFEAT | S--------- |             |
| 5  | WHNHQTRN |            |             |

|    | RecYCD4.1 | AtCYCD4.1 | Consistency |
|----|-----------|-----------|-------------|
| 6  | QNKRFDCCGD | Q--------- |             |
| 7  | ILPIQSDDECL | L--------- |             |
| 8  | ALMLEKEKQH | L--------- |             |
| 9  | LPNSDLKXRL | P--------- |             |
| 10 | QICD------ |           |             |

|    | RecYCD4.1 | AtCYCD4.1 | Consistency |
|----|-----------|-----------|-------------|
| 11 | PIETSIPQMG | F--------- |             |
| 12 | FSQSESEITI | S--------- |             |
| 13 | MEMVEKEKQH | E--------- |             |
| 14 | LPSDDYIKRL | D--------- |             |
| 15 | RSDDLNLNVG |            |             |

|    | RecYCD4.1 | AtCYCD4.1 | Consistency |
|----|-----------|-----------|-------------|
| 16 | K----------- | K--------- |             |
| 17 | INAHFDGFPL | A--------- |             |
| 18 | CAYLSINYL |            |             |
| 19 | DRSAYELPK |             |             |

|    | RecYCD4.1 | AtCYCD4.1 | Consistency |
|----|-----------|-----------|-------------|
| 20 | K----------- | K--------- |             |
| 21 | RDALNWIWK | R--------- |             |
| 22 | IRGLCRTDRP | G--------- |             |
| 23 | ACEVRQFGPL | R--------- |             |
| 24 | CFCLAMNYLD | L--------- |             |
| 25 | RLFSVHDLPS |            |             |

|    | RecYCD4.1 | AtCYCD4.1 | Consistency |
|----|-----------|-----------|-------------|
| 26 | VACLCLAAMK | V--------- |             |
| 27 | ETEVPLMLID | E--------- |             |
| 28 | LQVGFDPQVF | F--------- |             |
| 29 | EAKSWQRMEL |            |             |

|    | RecYCD4.1 | AtCYCD4.1 | Consistency |
|----|-----------|-----------|-------------|
| 30 | LVLSTORKRM | L--------- |             |
| 31 | QAITFPSYID | F--------- |             |
| 32 | YFIRKIBDGD | R--------- |             |
| 33 | QPLATDFLS |            |             |
| 34 | SIGLISTIK |             |             |

|    | RecYCD4.1 | AtCYCD4.1 | Consistency |
|----|-----------|-----------|-------------|
| 35 | LVILRKWRL | L--------- |             |
| 36 | RAIITPSYTR | I--------- |             |
| 37 | YFLRKMKCD | T--------- |             |
| 38 | QEPSNTLISR |            |             |
| 39 | SLQVASTTIK |            |             |

|    | RecYCD4.1 | AtCYCD4.1 | Consistency |
|----|-----------|-----------|-------------|
| 40 | VACLCLAAMK | V--------- |             |
| 41 | ETEVPLMLID | E--------- |             |
| 42 | LQVGFDPQVF | F--------- |             |
| 43 | EAKSWQRMEL |            |             |

|    | RecYCD4.1 | AtCYCD4.1 | Consistency |
|----|-----------|-----------|-------------|
| 44 | SIDELEFKE | S--------- |             |
| 45 | PSVEAAVAISL | A--------- |             |
| 46 | AGETK--TVTD | T--------- |             |
| 47 | EKAINVLTQY | N--------- |             |
| 48 | VKKERMVBCV |            |             |

|    | RecYCD4.1 | AtCYCD4.1 | Consistency |
|----|-----------|-----------|-------------|
| 49 | SIDELEFKE | S--------- |             |
| 50 | PSVEAAVAISL | A--------- |             |
| 51 | SCELQRVHFD | R--------- |             |
| 52 | NSSFSSPLFSL |            |             |
| 53 | LOKMERVKKG |            |             |

|    | RecYCD4.1 | AtCYCD4.1 | Consistency |
|----|-----------|-----------|-------------|
| 54 | KMVQDSLIG | K--------- |             |
| 55 | ANASVPSISPI | S--------- |             |
| 56 | GVLDAALLSY | L--------- |             |
| 57 | KSDDTVGSC |            |             |
| 58 | PSSSNTDP |             |             |

|    | RecYCD4.1 | AtCYCD4.1 | Consistency |
|----|-----------|-----------|-------------|
| 59 | EMILEDGSDL | E--------- |             |
| 60 | CSQTPN--GY | Q--------- |             |
| 61 | LEVSACCFSF | S--------- |             |
| 62 | KTHDSSSSYT |            |             |
| 63 | HLY-------- |           |             |

|    | RecYCD4.1 | AtCYCD4.1 | Consistency |
|----|-----------|-----------|-------------|
| 64 | KRRALKLNPE | K--------- |             |
| 65 | VEK-------- |           |             |
| 66 |              |           |             |

|    | RecYCD4.1 | AtCYCD4.1 | Consistency |
|----|-----------|-----------|-------------|
| 67 |             |           |             |

#### Supplementary Fig. S4c

Presence of two active conserved motifs is shown in green and red, respectively.
