

Supplemental Data Text 1: Analysis Overview of 142 Vacuole Proteins

Identifiers of 142 proteins used for pattern searches and motif discovery. The last two columns contain the number of patterns found in each protein, their start positions and sequence using the following syntax: *number of hits (start: sequence)*.

| Locus IDs | Pattern 1 [NL]-[PIL]-[IP] | Pattern 2 [NL]-[PIL]-[IP]-[RNS] |
|-------------|---|-------------------------------------|
| AT3G14920.1 | 7 (5: LPP, 67: NLP, 179: NLI, 219: LPI, 224: NLP, 273: NLP, 594: LPP) | 3 (219: LPIS, 273: NLPN, 594: LPPR) |
| AT5G05480.1 | 5 (190: NPI, 217: LII, 271: NPP, 332: NLP, 598: LII) | 2 (271: NPPN, 332: NLPS) |
| AT2G32810.1 | 5 (17: LII, 45: LII, 237: NII, 412: LPP, 691: NII) | 1 (691: NIIS) |
| AT5G13690.1 | 5 (11: LLI, 12: LII, 38: LLP, 56: LLP, 190: NLP) | 1 (12: LIIS) |
| AT5G49760.1 | 5 (10: LLI, 106: LPP, 118: NLI, 208: NIP, 495: LLI) | 1 (106: LPPN) |
| At1G67240.1 | 4 (36: NLI, 516: LLP, 615: NLP, 785: NPP) | 1 (36: NLIS) |
| AT4G29130.1 | 3 (87: NLP, 272: LLP, 400: NII) | 1 (87: NLPS) |
| AT4G29700.1 | 3 (83: LLI, 95: LIP, 451: LLP) | 2 (83: LLIS, 451: LLPS) |
| AT5G65760.1 | 3 (8: LLI, 30: LLP, 433: NII) | 1 (30: LLPR) |
| AT3G55260.1 | 3 (65: LII, 190: LLI, 199: LPI) | 1 (65: LIIR) |
| AT1G71695.1 | 3 (58: NII, 181: NLP, 182: LPP) | 1 (58: NIIR) |
| AT1G55265.1 | 3 (57: LLP, 67: LLP, 130: LPI) | 2 (57: LLPR, 67: LLPN) |
| AT5G19860.1 | 3 (39: LLP, 49: LLP, 120: LPP) | 1 (120: LPPS) |
| AT5G63910.1 | 3 (19: LLP, 378: LIP, 473: LII) | 1 (473: LIIS) |
| AT3G11700.1 | 3 (184: LLI, 185: LIP, 238: LPI) | 1 (185: LIPR) |
| AT5G06390.1 | 3 (183: LLI, 184: LIP, 235: LPI) | 1 (184: LIPR) |
| AT1G04970.1 | 3 (11: LLP, 122: LPP, 450: LPI) | 1 (11: LLPS) |
| AT4G27830.1 | 3 (106: LIP, 124: NLI, 391: NPP) | 1 (106: LIPN) |
| AT3G62750.1 | 3 (103: LIP, 121: NLI, 378: NPP) | 1 (103: LIPN) |
| AT5G12950.1 | 2 (5: LII, 72: LLP) | 1 (72: LLPR) |
| AT4G23200.1 | 2 (46: LLP, 426: NII) | 1 (46: LLPS) |
| AT5G28540.1 | 2 (444: LIP, 636: NPI) | 1 (444: LIPR) |
| AT5G42020.1 | 2 (444: LIP, 636: NPI) | 1 (444: LIPR) |
| AT2G20990.1 | 2 (31: LLP, 123: LPP) | 1 (31: LLPN) |
| AT1G02816.1 | 2 (3: LLP, 4: LPI) | 1 (4: LPIS) |
| AT1G78680.1 | 2 (28: LLP, 317: NLI) | 1 (28: LLPS) |
| AT1G21750.1 | 2 (200: LLP, 326: LII) | 1 (200: LLPR) |
| AT3G16850.1 | 2 (16: LLI, 142: NLI) | 1 (16: LLIS) |
| AT4G12910.1 | 2 (129: NII, 317: LPI) | 1 (317: LPIR) |
| AT1G62600.1 | 1 (80: NLP) | 1 (80: NLPR) |
| AT5G24780.1 | 1 (68: NII) | 1 (68: NIIN) |
| AT2G34585.1 | 1 (61: LIP) | 1 (61: LIPN) |
| AT4G29260.1 | 1 (60: LIP) | 1 (60: LIPS) |
| AT3G14067.1 | 1 (540: NII) | 1 (540: NIIS) |

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| AT3G10410.1 | 1 (37: NLP) | 1 (37: NLPS) |
| AT1G47128.1 | 1 (357: NPP) | 1 (357: NPPN) |
| AT4G16190.1 | 1 (34: NPI) | 1 (34: NPIR) |
| AT5G60360.1 | 1 (30: NPI) | 1 (30: NPIR) |
| AT1G27480.1 | 1 (280: LLP) | 1 (280: LLPS) |
| AT3G09260.1 | 1 (246: LLI) | 1 (246: LLIS) |
| AT1G02305.1 | 1 (20: LLI) | 1 (20: LLIS) |
| AT3G62110.1 | 1 (190: LII) | 1 (190: LIIS) |
| AT5G54870.1 | 5 (42: LLP, 64: LLP, 309: LLP, 341: NLI, 521: LPP) | |
| AT4G27020.1 | 5 (34: LLP, 56: LLP, 301: LLP, 333: NLI, 513: LPP) | |
| AT5G11560.1 | 5 (111: NLP, 585: LPI, 846: LLI, 887: LPI, 950: LLI) | |
| AT2G07698.1 | 5 (103: LLP, 104: LPI, 438: LLI, 538: LII, 709: LPI) | |
| AT3G26720.1 | 4 (526: LLP, 658: LPI, 863: LLI, 999: LLI) | |
| AT1G73200.1 | 4 (300: NIP, 387: NLP, 388: LPP, 654: NIP) | |
| AT3G44330.1 | 4 (109: LLI, 112: LLP, 149: NIP, 323: LLI) | |
| AT1G31550.1 | 3 (58: NLP, 84: LII, 282: NII) | |
| AT1G54010.1 | 3 (31: NIP, 57: LLP, 215: LPI) | |
| AT3G60340.2 | 3 (220: LIP, 240: LPP, 318: NII) | |
| AT3G14210.1 | 3 (22: NPI, 98: LPP, 216: LPI) | |
| AT5G11720.1 | 3 (207: LIP, 646: LLP, 662: NPI) | |
| AT4G24190.1 | 3 (18: LLP, 190: NLI, 432: LLP) | |
| AT1G09850.1 | 2 (67: NLI, 338: NPP) | |
| AT5G13980.2 | 2 (645: LIP, 711: NIP) | |
| AT5G24770.1 | 2 (63: NII, 168: NII) | |
| AT4G24640.1 | 2 (53: NPP, 62: LLP) | |
| AT4G27520.1 | 2 (42: NPP, 88: NPI) | |
| AT1G54000.1 | 2 (23: NPI, 215: LPI) | |
| AT1G20225.1 | 2 (22: LIP, 81: LIP) | |
| AT1G09210.1 | 2 (205: LLP, 206: LPP) | |
| AT4G08770.1 | 2 (13: LLI, 159: NLP) | |
| AT1G25570.1 | 1 (93: LPP) | |
| AT1G76020.1 | 1 (80: LLP) | |
| AT1G03860.1 | 1 (8: NIP) | |
| AT1G07080.1 | 1 (8: LLP) | |
| AT3G23760.1 | 1 (70: NII) | |
| AT4G39730.1 | 1 (7: LLP) | |
| AT5G23820.1 | 1 (69: NIP) | |
| AT4G14100.1 | 1 (65: NII) | |
| AT3G10740.1 | 1 (645: LPP) | |
| AT3G27280.1 | 1 (62: LIP) | |

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| AT5G40770.1 | 1 (62: LIP) | |
| AT1G21250.1 | 1 (558: LIP) | |
| AT4G36190.1 | 1 (402: LLI) | |
| AT4G02370.1 | 1 (4: LPI) | |
| AT2G35780.1 | 1 (354: LPI) | |
| AT1G78670.1 | 1 (328: NLI) | |
| AT4G30810.1 | 1 (327: NLP) | |
| AT2G41470.1 | 1 (31: LPI) | |
| AT3G56310.1 | 1 (307: LLI) | |
| AT1G04410.1 | 1 (303: LPI) | |
| AT3G57260.1 | 1 (285: NLI) | |
| AT3G57020.1 | 1 (280: NLI) | |
| AT5G57655.2 | 1 (270: LLI) | |
| AT1G74210.1 | 1 (247: LLI) | |
| AT5G61790.1 | 1 (217: LIP) | |
| AT3G14220.1 | 1 (213: LPI) | |
| AT5G44020.1 | 1 (199: NLI) | |
| AT3G49110.1 | 1 (168: NLP) | |
| AT3G49120.1 | 1 (167: NLP) | |
| AT3G07470.1 | 1 (167: NII) | |
| AT4G08780.1 | 1 (159: NLP) | |
| AT1G52400.1 | 1 (152: NII) | |
| AT3G51730.1 | 1 (152: LLI) | |
| AT1G52280.1 | 1 (151: NIP) | |
| AT2G04690.1 | 1 (138: LLI) | |
| AT4G16500.1 | 1 (13: LLP) | |
| AT5G15350.1 | 1 (128: LPP) | |
| AT1G53590.1 | 1 (125: NPP) | |
| AT5G26000.1 | 1 (121: LLP) | |
| AT1G02130.1 | 1 (12: LLI) | |
| AT4G17530.1 | 1 (12: LLI) | |
| AT1G15000.1 | 1 (119: NPI) | |
| AT1G11910.1 | | |
| AT1G17100.1 | | |
| AT1G24450.1 | | |
| AT1G52410.1 | | |
| AT1G55120.1 | | |
| AT1G62290.1 | | |
| AT1G65820.1 | | |
| AT1G66270.1 | | |
| AT1G67360.2 | | |
| AT1G74020.1 | | |
| AT1G75040.1 | | |
| AT2G07707.1 | | |
| AT2G14720.2 | | |

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| AT2G21160.1 | | |
| AT2G22170.1 | | |
| AT2G28100.1 | | |
| AT2G32920.1 | | |
| AT2G39780.1 | | |
| AT3G07460.1 | | |
| AT3G11530.1 | | |
| AT3G11780.1 | | |
| AT3G22060.1 | | |
| AT3G44100.1 | | |
| AT3G49870.1 | | |
| AT3G58730.1 | | |
| AT4G01610.1 | | |
| AT4G17170.1 | | |
| AT4G36195.1 | | |
| AT4G38220.1 | | |
| AT5G20230.1 | | |
| AT5G25980.1 | | |
| AT5G34850.1 | | |
| AT5G48580.1 | | |
| AT5G55990.1 | | |
| AT5G58860.1 | | |
| AT5G67560.1 | | |