# Supplementary Tables

**Supplementary Table 1** – Predicted PKA substrates *S. cerevisiae*. The first column is protein accession numbers from Swiss-Prot & TrEMBL (UniProt) database. The second column is experimentally verified PKA substrates. The "Yes" in the third column means the protein to be experimentally verified. The fourth column is protein identifiers from STRING databases. The fifth column shows which PKA isoform experimentally interact with the protein. The sixth column presents which PKA isoform is predicted to interact with the protein. And the last column gives GPS score for all predicted PKA sites. And all experimentally verified sites are marked in red.

| UniProt (SRS) | Known PKA | Exp. PPI | STRING PPI | Exp. Binding | String PKA | GPS (PKA) |
|---|---|---|---|---|---|---|
| F16P_YEAST | N/A | | 4932.YLR377C | | TPK1 | **S11** |
| ADR1_YEAST | N/A | | 4932.YDR216W | | TPK2;TPK3 | **S230** |
| CRZ1_YEAST | TPK1 | Yes | 4932.YNL027W | TPK1 | TPK1 | S43;S168;S409;S410;S422;S423;S427 |
| MSN4_YEAST | TPK1 | Yes | 4932.YKL062W | TPK2 | TPK2;TPK3 | S124;S263;S279;S316;S369;S381;S531;S532;S558 |
| Q2VQG5_YEAST | TPK1 | Yes | 4932.YAL038W | TPK1 | TPK1;TPK2 | S22 |
| PHSG_YEAST | TPK1 | Yes | 4932.YPR160W | TPK3 | TPK1 | S332;S673 |
| BOB1_YEAST | TPK1 | | 4932.YBL085W | | TPK3 | S122;S141;S339;S348;S358;T477;S525;S537;S555;S569;S570;S578;S589;S590;S644;S |
| KBN8_YEAST | TPK1 | | 4932.YBR028C | | TPK2 | S72;S73;S90;S105;S430 |
| TREA_YEAST | TPK1 | | 4932.YDR001C | | TPK1;TPK2 | S20;S21;S83;S567 |
| STF2_YEAST | TPK1 | | 4932.YGR008C | | TPK1;TPK2 | S68 |
| Q06137_YEAST | TPK1 | | 4932.YLR345W | | TPK1;TPK2 | S239 |
| YM54_YEAST | TPK1 | | 4932.YMR196W | | TPK1 | S957;S981 |
| UBP15_YEAST | TPK1 | | 4932.YMR304W | | TPK1 | S659 |
| RNY1_YEAST | TPK1 | | 4932.YPL123C | | TPK1;TPK2 | S246 |
| ARL1_YEAST | TPK1 | | | | | S101 |
| UBP7_YEAST | TPK1 | | | | | S102;S229;S274;S908;S923;S924 |
| KKL6_YEAST | TPK1 | | | | | S103;S457 |
| YG4Y_YEAST | TPK1 | | | | | S104;S199 |
| YNP7_YEAST | TPK1 | | | | | S105 |
| UBX1_YEAST | TPK1 | | | | | S106 |
| YAP6_YEAST | TPK1 | | | | | S108;S175 |

| YKG1_YEAST | TPK1 | S109 |
| YP33_YEAST | TPK1 | S11 |
| SPC42_YEAST | TPK1 | S11;S12;S126;S284;S318;S319 |
| SEC2_YEAST | TPK1 | S11;S440;S704 |
| SKO1_YEAST | TPK1 | S11;S54;S380;S381;S393;S399;S588 |
| SYDM_YEAST | TPK1 | S111;S169;S170 |
| YN8N_YEAST | TPK1 | S113;S147;S496 |
| NSR1_YEAST | TPK1 | S116;S117;S143 |
| HAS1_YEAST | TPK1 | S12 |
| UBX4_YEAST | TPK1 | S123;S264 |
| PIB2_YEAST | TPK1 | S124;S148;S217;S238;S239;S300;S328;S344;S366 |
| YNQ6_YEAST | TPK1 | S13;S289;S325;S336;S339;S340 |
| UBP9_YEAST | TPK1 | S13;T30;S52;S67;S245;T719;S747 |
| SECU_YEAST | TPK1 | S132;S139 |
| Q04087_YEAST | TPK1 | S132;S280;T323 |
| YM60_YEAST | TPK1 | S135 |
| YN86_YEAST | TPK1 | S136;S146;S147;S209;S295 |
| Q03780_YEAST | TPK1 | S14;S35;S50;S74;S199;S254;S758 |
| HOS4_YEAST | TPK1 | S14;T52;S129;S299;S462;S698;S1069 |
| MSS4_YEAST | TPK1 | S140;S200;S204;T222;S341 |
| HSP60_YEAST | TPK1 | S141 |
| UME6_YEAST | TPK1 | S141;S280;S297;S298;S645;S664 |
| YK80_YEAST | TPK1 | S142;S170;S215;S216 |
| YK01_YEAST | TPK1 | S143;S182;S220;S596;S786;S873;S874 |
| SYG1_YEAST | TPK1 | S148;S859;S860 |
| CTI6_YEAST | TPK1 | S149;S175;S216;S267;S374;S382;S394;S425;S434 |
| PHO4_YEAST | TPK1 | S149;S204;S211;S242;S243;S254 |
| YK02_YEAST | TPK1 | S153 |
| UBP10_YEAST | TPK1 | S159;S556;S585 |
| BUD27_YEAST | TPK1 | S165;S328 |
| GLO3_YEAST | TPK1 | S166;S182;S217;S237 |

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|---|---|---|
| YJI4_YEAST | TPK1 | S166;S197;S199;S200;S201;T222;S615;S749;S783;S803;S838;S1022 |
| SIS1_YEAST | TPK1 | S171;T248 |
| RSP5_YEAST | TPK1 | S177;T761 |
| Q12199_YEAST | TPK1 | S181;S325 |
| SSF2_YEAST | TPK1 | S182 |
| GZF3_YEAST | TPK1 | S182;S227 |
| YFK8_YEAST | TPK1 | S185 |
| ALR1_YEAST | TPK1 | S19;S170;S185;S214;S255;T615 |
| LAH1_YEAST | TPK1 | S19;S210;S224 |
| ALR2_YEAST | TPK1 | S19;S42;S184;T211;S232;S307;T614;S846;T847 |
| RL8A_YEAST | TPK1 | S194 |
| LEO1_YEAST | TPK1 | S198;S315;S339 |
| KPR1_YEAST | TPK1 | S199;S218 |
| BUD6_YEAST | TPK1 | S20;S143;S177;S185;S253;S347;S596 |
| RRP5_YEAST | TPK1 | S20;S25;S88 |
| HBS1_YEAST | TPK1 | S206 |
| FHP_YEAST | TPK1 | S210 |
| SYF2_YEAST | TPK1 | S211 |
| YMD7_YEAST | TPK1 | S216;S234;S274 |
| BBC1_YEAST | TPK1 | S221;S565;S631;S647;T894 |
| PNPP_YEAST | TPK1 | S225 |
| Q05905_YEAST | TPK1 | S228 |
| KICH_YEAST | TPK1 | S23;S24;S25;S30;S36;S37;S45;S85;S198 |
| YKA8_YEAST | TPK1 | S23;S24;S58 |
| Q07824_YEAST | TPK1 | S23;S24;S580 |
| YB42_YEAST | TPK1 | S237 |
| DBP4_YEAST | TPK1 | S239;S428;S602 |
| YG5S_YEAST | TPK1 | S24;S95 |
| MPD1_YEAST | TPK1 | S242 |
| ECM3_YEAST | TPK1 | S254;S312;S349;S350 |
| YEB5_YEAST | TPK1 | S261;S459;S531 |

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|---|---|---|
| SKT5_YEAST | TPK1 | S266;S561;S585;S629;S630 |
| FPS1_YEAST | TPK1 | S27;S39;S179;S181;S185;S570 |
| Q06108_YEAST | TPK1 | S28;S481;S628;S879;S911;S914;S915;S966;S992;S993 |
| Q06511_YEAST | TPK1 | S28;S90 |
| ARE2_YEAST | TPK1 | S29;S175;S176 |
| Q07442_YEAST | TPK1 | S29;S253;S273 |
| FPPS_YEAST | TPK1 | S292 |
| Q06148_YEAST | TPK1 | S297;S298;S320 |
| YNS2_YEAST | TPK1 | S30;S68;S319 |
| EAF7_YEAST | TPK1 | S308;S386;S387;S411 |
| YMZ2_YEAST | TPK1 | S311;S528;S541;S542;S775 |
| AMPM1_YEAST | TPK1 | S32 |
| YG3A_YEAST | TPK1 | S338 |
| GYP1_YEAST | TPK1 | S34;S42;S69;S87;S131;S190;S193;T194;S212;S213;S570 |
| MTHR1_YEAST | TPK1 | S358;S359;S555 |
| YBY0_YEAST | TPK1 | S36;S343;S372;S377 |
| Q08444_YEAST | TPK1 | S364 |
| Q12485_YEAST | TPK1 | S365 |
| YME5_YEAST | TPK1 | S365 |
| PGM1_YEAST | TPK1 | S375 |
| YNM5_YEAST | TPK1 | S38;S61;S154 |
| SC160_YEAST | TPK1 | S385;S386;S900 |
| Q07897_YEAST | TPK1 | S39;S149;S285 |
| SSD1_YEAST | TPK1 | S40;S151;S152;S164;S183;T227;S259;S278;S319;S480;S481;S502;S503;S751;S752 |
| Q12234_YEAST | TPK1 | S401 |
| Q3E7W9_YEAST | TPK1 | S403 |
| YB07_YEAST | TPK1 | S41 |
| HBT1_YEAST | TPK1 | S41;S363;S956;S979 |
| Q06833_YEAST | TPK1 | S414;S669;S714;S747 |
| SOL2_YEAST | TPK1 | S42;S58 |

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|---|---|---|
| SER33_YEAST | TPK1 | S43;S242 |
| PXL1_YEAST | TPK1 | S43;S63;S106;S128;S135;S354;S405 |
| RMD1_YEAST | TPK1 | S44;S47;S71;S374 |
| DPH2_YEAST | TPK1 | S440 |
| UTP7_YEAST | TPK1 | S457 |
| CDC68_YEAST | TPK1 | S459;S460;S765 |
| ATG21_YEAST | TPK1 | S46;S237 |
| ORM2_YEAST | TPK1 | S46;S47;S48 |
| PTH2_YEAST | TPK1 | S47 |
| Q12162_YEAST | TPK1 | S47 |
| SRPR_YEAST | TPK1 | S47;S200;S361 |
| O13528_YEAST | TPK1 | S47;S365 |
| YH07_YEAST | TPK1 | S475;S476;S512 |
| Q06247_YEAST | TPK1 | S477 |
| AVT4_YEAST | TPK1 | S48;S101;S118;S119;S180;S435 |
| BSP1_YEAST | TPK1 | S480 |
| Q12172_YEAST | TPK1 | S5;T711 |
| Q12100_YEAST | TPK1 | S50;S51;S54;T77 |
| LKHA4_YEAST | TPK1 | S51 |
| ORM1_YEAST | TPK1 | S51;S52;S53 |
| AVT3_YEAST | TPK1 | S53;S55;S58;S59;S119;S172;S174 |
| NMD4_YEAST | TPK1 | S54 |
| SYDC_YEAST | TPK1 | S545 |
| YHR7_YEAST | TPK1 | S55;S203;S534;S535 |
| K6PF2_YEAST | TPK1 | S554;S633 |
| XPP_YEAST | TPK1 | S56;S68;S69 |
| MCM3_YEAST | TPK1 | S560;S790;T791 |
| YBV8_YEAST | TPK1 | S57;S570;S667;S669;S790 |
| IF43_YEAST | TPK1 | S58;S59 |
| UTR1_YEAST | TPK1 | S58;S67;S94;S95 |
| SAS10_YEAST | TPK1 | S6;S300;T415;S508 |
| VHS3_YEAST | TPK1 | S6;T56;S117;S118;S181;S221;S223;S245;S385;S420 |
| ARP8_YEAST | TPK1 | S624 |

| Protein | Kinase | Sites |
|---|---|---|
| VHS2_YEAST | TPK1 | S64;S65;S88;S159;S172;S174;S277;S303;S316;S325 |
| YHQ5_YEAST | TPK1 | S65;S66;S114 |
| SMP2_YEAST | TPK1 | S677;S692;S769;S773;S774;S788;S823 |
| MLF3_YEAST | TPK1 | S69;S74;S92;T121;S156;S157;S306;S329 |
| ENT4_YEAST | TPK1 | S69;T164;S182 |
| ELF1_YEAST | TPK1 | S7;S43 |
| DRS1_YEAST | TPK1 | S739 |
| Q12416_YEAST | TPK1 | S78;S169;T170 |
| Q08229_YEAST | TPK1 | S81;S112;S205;S422 |
| BUD3_YEAST | TPK1 | S819;S911;S1050;S1254 |
| CHA4_YEAST | TPK1 | S83 |
| IVY1_YEAST | TPK1 | S84;S85;S239;S419 |
| NPY1_YEAST | TPK1 | S86;S380 |
| GIC2_YEAST | TPK1 | S86;S88;S96;S97;S180;S213;S219;S312;S345 |
| OSH3_YEAST | TPK1 | S87;S88;S209;S504 |
| YJH0_YEAST | TPK1 | S9;S346;S383;S810;T869 |
| CDC54_YEAST | TPK1 | S97;S670;T792 |
| YNT6_YEAST | TPK1 | S98;S190 |
| Q2VQC3_YEAST | TPK1 | S98;S205 |
| LCP5_YEAST | TPK1 | S99;S184;S253;T287 |
| YG4I_YEAST | TPK1 | T164 |
| YCQ6_YEAST | TPK1 | T18;S74;S112 |
| PUF4_YEAST | TPK1 | T205;S241;S300;S860 |
| UBP6_YEAST | TPK1 | T323 |
| G4P1_YEAST | TPK1 | T358 |
| IMA1_YEAST | TPK1 | T38 |
| ENT5_YEAST | TPK1 | T41;S257 |
| PUS3_YEAST | TPK1 | T43;S68;S237 |
| RMS1_YEAST | TPK1 | T480 |
| PSA4_YEAST | TPK1 | T53;S116 |
| ACOX_YEAST | TPK1 | T6;S134 |

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|---|---|---|---|---|---|
| STM1_YEAST | TPK1 | | | | T90 |
| PPID_YEAST | TPK1 | Yes | | TPK3 | |
| SDS22_YEAST | TPK1 | | 4932.YKL193C | TPK2 | |
| GYS2_YEAST | TPK1 | | 4932.YLR258W | TPK1;TPK2 | |
| AB140_YEAST | TPK1 | | | | |
| AP1G1_YEAST | TPK1 | | | | |
| APM2_YEAST | TPK1 | | | | |
| AROF_YEAST | TPK1 | | | | |
| BET3_YEAST | TPK1 | | | | |
| BFR1_YEAST | TPK1 | | | | |
| CCHL_YEAST | TPK1 | | | | |
| CNS1_YEAST | TPK1 | | | | |
| CPNSH_YEAST | TPK1 | | | | |
| CYC7_YEAST | TPK1 | | | | |
| DBP2_YEAST | TPK1 | | | | |
| DON1_YEAST | TPK1 | | | | |
| EF1A_YEAST | TPK1 | | | | |
| FOX2_YEAST | TPK1 | | | | |
| GCH1_YEAST | TPK1 | | | | |
| GSF2_YEAST | TPK1 | | | | |
| HSV2_YEAST | TPK1 | | | | |
| IF31_YEAST | TPK1 | | | | |
| NAP1_YEAST | TPK1 | | | | |
| PHR_YEAST | TPK1 | | | | |
| Q06525_YEAST | TPK1 | | | | |
| Q12191_YEAST | TPK1 | | | | |
| Q12497_YEAST | TPK1 | | | | |
| Q3E779_YEAST | TPK1 | | | | |
| RGM1_YEAST | TPK1 | | | | |
| RPN2_YEAST | TPK1 | | | | |
| RUXG_YEAST | TPK1 | | | | |
| TFS2_YEAST | TPK1 | | | | |
| TRM1_YEAST | TPK1 | | | | |
| UBIQ_YEAST | TPK1 | | | | |

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|---|---|---|---|---|---|
| YBF5_YEAST | TPK1 | | | | |
| YEK0_YEAST | TPK1 | | | | |
| YEQ8_YEAST | TPK1 | | | | |
| YG5L_YEAST | TPK1 | | | | |
| YGR8_YEAST | TPK1 | | | | |
| YHB3_YEAST | TPK1 | | | | |
| YJV8_YEAST | TPK1 | | | | |
| YKU6_YEAST | TPK1 | | | | |
| YL022_YEAST | TPK1 | | | | |
| YM95_YEAST | TPK1 | | | | |
| YMY9_YEAST | TPK1 | | | | |
| YNO9_YEAST | TPK1 | | | | |
| 6P21_YEAST | TPK1;TPK2 | | 4932.YIL107C | TPK1 | T157;S644;S656;S667 |
| YAK1_YEAST | TPK1;TPK2 | | 4932.YJL141C | TPK2 | S127;S128;S206;S240;S295 |
| SMY1_YEAST | TPK1;TPK2 | | | | S11;S189;S190;S275;S300;S575;S615 |
| MGA1_YEAST | TPK1;TPK2 | | | | S117;T118;S209 |
| STB3_YEAST | TPK1;TPK2 | | | | S146;S234;S254;S285;S286;S345;S348;S44 |
| KAPC_YEAST | TPK1;TPK2 | | | | S15;S141 |
| NGL3_YEAST | TPK1;TPK2 | | | | S16;S17;S62 |
| YHC4_YEAST | TPK1;TPK2 | | | | S367;S429;S470;S525;S607 |
| YKM1_YEAST | TPK1;TPK2 | | | | S49;S57;S93;S313;S528;S610;S727;S793 |
| AZF1_YEAST | TPK1;TPK2 | | | | S61;S110;S195;S227;S303;T757;S856 |
| IDS2_YEAST | TPK1;TPK2 | | | | S87;S110;S136;S148;S164;S452 |
| Q02831_YEAST | TPK1;TPK2 | | | | S9;S69;S95 |
| YM20_YEAST | TPK1;TPK2 | | | | T49;S50;T77;S78;T183;S410;T433;S480;S48 |
| KAPR_YEAST | TPK1;TPK2;TPK3 | Yes | 4932.YIL033C | TPK1;TPK2;TPK3 | TPK1;TPK2;TPK3 | S74;T144;**S145**;T380 |
| MBR1_YEAST | TPK1;TPK2;TPK3 | | 4932.YKL093W | | TPK2;TPK3 | S102;S171;S172;S177;S224;S226;S227;S32 |
| MBR3_YEAST | TPK1;TPK2;TPK3 | | | | S130;T131;S135;S265;S284;S326 |
| AVT1_YEAST | TPK1;TPK2;TPK3 | | | | S15;S50;S115;S136 |
| YM47_YEAST | TPK1;TPK2;TPK3 | | | | S40;S79 |
| YFI7_YEAST | TPK1;TPK2;TPK3 | | | | S64;T65;S82;S83;S96;S174;S175 |
| MNR2_YEAST | TPK1;TPK2;TPK3 | | | | T50;S104;S165;S182;S220;S247;S582;S620; S621;S654;S780;S787;S794 |
| KAPB_YEAST | TPK1;TPK2;TPK3 | | | | |

| Protein | Kinase | | STRING ID | | Kinase | Sites |
|---|---|---|---|---|---|---|
| JJJ1_YEAST | TPK1;TPK3 | Yes | 4932.YNL227C | TPK3 | TPK1;TPK3 | S526 |
| Q06685_YEAST | TPK1;TPK3 | | | | | S175;S176;T441;S1121 |
| KKR1_YEAST | TPK1;TPK3 | | | | | S21;S193;S242;S243;S405;S636;S759;S761 |
| BAG7_YEAST | TPK1;TPK3 | | | | | S22;S23;S311;S352;T402 |
| YHY2_YEAST | TPK1;TPK3 | | | | | S23;S356 |
| RGA2_YEAST | TPK1;TPK3 | | | | | S393;S435;S574;S585;S586;S677;S702;S95 |
| STR3_YEAST | TPK1;TPK3 | | | | | S456 |
| HSP82_YEAST | TPK1;TPK3 | | | | | S49;S602 |
| SNX41_YEAST | TPK1;TPK3 | | | | | S77;T78;S155;S499;S502;S503 |
| DENR_YEAST | TPK1;TPK3 | | | | | S96 |
| CWC25_YEAST | TPK1;TPK3 | | | | | |
| DHAS_YEAST | TPK1;TPK3 | | | | | |
| Q02786_YEAST | TPK1;TPK3 | | | | | |
| YP46_YEAST | TPK1;TPK3 | | | | | |
| CLP1_YEAST | TPK2 | | | | | S328 |
| KYNU_YEAST | TPK2 | | | | | S54;S343 |
| PPCK_YEAST | TPK2 | | | | | |
| KCC1_YEAST | TPK2;TPK3 | | 4932.YFR014C | | TPK1;TPK2;TPK3 | T289;S379 |
| KCC2_YEAST | TPK2;TPK3 | | 4932.YOL016C | | TPK1;TPK2;TPK3 | S68 |
| AKL1_YEAST | TPK2;TPK3 | | | | | S12;S148;S427;T428;S439;S518;S884;S936; S1011;S1099 |
| PUR92_YEAST | TPK2;TPK3 | | | | | |
| YIF1_YEAST | TPK2;TPK3 | | | | | |
| SSN2_YEAST | TPK3 | | 4932.YDR443C | | TPK1;TPK2 | S352;T416;S608;S1236 |
| OPI1_YEAST | TPK3 | | 4932.YHL020C | | TPK2;TPK3 | S31 |
| VPS27_YEAST | TPK3 | | | | | S106;S277;S489 |
| DDP1_YEAST | TPK3 | | | | | S120 |
| MAYS_YEAST | TPK3 | | | | | S126 |
| ATG29_YEAST | TPK3 | | | | | S136;S164 |
| RE104_YEAST | TPK3 | | | | | S150;S172 |
| DAP2_YEAST | TPK3 | | | | | S160;S374;S457;S458 |
| PNT1_YEAST | TPK3 | | | | | S162 |
| YGH5_YEAST | TPK3 | | | | | S189 |
| CDC15_YEAST | TPK3 | | | | | S19;S112;S596;S907;S928;S932 |

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|---|---|---|---|---|---|---|
| Q12477_YEAST | TPK3 | | | | | S202;S203;S224 |
| UBP8_YEAST | TPK3 | | | | | S204 |
| SPP1_YEAST | TPK3 | | | | | S253 |
| ZIP1_YEAST | TPK3 | | | | | S269;S418;T512 |
| SYSC_YEAST | TPK3 | | | | | S28 |
| KEL1_YEAST | TPK3 | | | | | S32;S525 |
| MAK5_YEAST | TPK3 | | | | | S325;S365;S642 |
| UBX2_YEAST | TPK3 | | | | | S327;S489 |
| ECM7_YEAST | TPK3 | | | | | S360;S381 |
| SEC39_YEAST | TPK3 | | | | | S398;S463 |
| YIA2_YEAST | TPK3 | | | | | S40;S252 |
| ATG1_YEAST | TPK3 | | | | | S411;S495;S508;S515;S635;S677 |
| KSP1_YEAST | TPK3 | | | | | S416;S433;S487;S591;S624;S812;S827;S883;S884;S923;S1006 |
| ALG6_YEAST | TPK3 | | | | | S471 |
| RM07_YEAST | TPK3 | | | | | S5 |
| MASY_YEAST | TPK3 | | | | | S502 |
| SIT1_YEAST | TPK3 | | | | | S521 |
| RS19A_YEAST | TPK3 | | | | | S59;S124 |
| APN1_YEAST | TPK3 | | | | | T363 |
| SSO1_YEAST | TPK3 | Yes | 4932.YPL232W | TPK1 | TPK1 | |
| HOG1_YEAST | TPK3 | | 4932.YLR113W | | TPK1;TPK2;TPK3 | |
| ADY1_YEAST | TPK3 | | | | | |
| APE2_YEAST | TPK3 | | | | | |
| CCA1_YEAST | TPK3 | | | | | |
| DCAM_YEAST | TPK3 | | | | | |
| DOS2_YEAST | TPK3 | | | | | |
| EFTU_YEAST | TPK3 | | | | | |
| ERG24_YEAST | TPK3 | | | | | |
| KIN3_YEAST | TPK3 | | | | | |
| MRS2_YEAST | TPK3 | | | | | |
| NOT2_YEAST | TPK3 | | | | | |
| PDC1_YEAST | TPK3 | | | | | |
| Q6DUF2_YEAS | TPK3 | | | | | |

| Protein | | Yes/No | ID | Kinase1 | Kinase2 | Sites |
|---|---|---|---|---|---|---|
| Q8TGK4_YEAS | TPK3 | | | | | |
| RLA1_YEAST | TPK3 | | | | | |
| RLA4_YEAST | TPK3 | | | | | |
| SIS2_YEAST | TPK3 | | | | | |
| TRX1_YEAST | TPK3 | | | | | |
| VAM10_YEAST | TPK3 | | | | | |
| YN8P_YEAST | TPK3 | | | | | |
| ZUO1_YEAST | TPK3 | | | | | |
| VPS13_YEAST | | Yes | | TPK1 | | S115;S135;S136;S584;S1641;S1724;S2445 |
| MGA1_YEAST | | Yes | 4932.YGR249W | TPK2 | TPK2 | S117;T118;S209 |
| RAS1_YEAST | | Yes | 4932.YOR101W | TPK1;TPK2 | TPK1;TPK2;TPK3 | S134;S293;S301 |
| YM38_YEAST | | Yes | 4932.YMR164C | TPK2 | TPK2 | S14 |
| TCPA_YEAST | | Yes | | TPK1 | | S163;S496 |
| KKK1_YEAST | | Yes | 4932.YKL101W | TPK2 | TPK1;TPK2 | S18;S57;S74;T359;S464;S476;S604;S1029; S1234;S1284;S1490 |
| GAT1_YEAST | | Yes | 4932.YFL021W | TPK1 | TPK1 | S181;S274;S275;S360;S361;S399 |
| K6PF1_YEAST | | Yes | | TPK3 | | S188;S189 |
| Q45TZ5_YEAST | | Yes | | TPK1;TPK3 | | S189;S190 |
| MSN2_YEAST | | Yes | 4932.YMR037C | TPK2 | TPK2;TPK3 | S201;S288;S304;S451;S582;S620;S625;S63 |
| SFL1_YEAST | | Yes | 4932.YOR140W | TPK2 | TPK2;TPK3 | S207;S208;S212;S220;S426;S590;S599;S61 |
| SOK2_YEAST | | Yes | 4932.YMR016C | TPK2 | TPK2 | S21;S257;T641 |
| RAS2_YEAST | | Yes | 4932.YNL098C | TPK1;TPK2;TPK3 | TPK1;TPK2;TPK3 | S213;S234 |
| NOT5_YEAST | | Yes | 4932.YPR072W | TPK2 | TPK2 | S232;S256;S464 |
| KPYK2_YEAST | | Yes | 4932.YOR347C | TPK1 | TPK1 | S24 |
| SCH9_YEAST | | Yes | 4932.YHR205W | TPK1 | TPK1 | S288;S289;S308 |
| CBK1_YEAST | | Yes | 4932.YNL161W | TPK1 | TPK1 | S330;S348 |
| FET4_YEAST | | Yes | | TPK1 | | S343 |
| FLO8_YEAST | | Yes | 4932.YER109C | TPK2 | TPK2;TPK3 | S349;T458;S462;S497;T498;S587;S608;S66 6;S682 |
| GIS1_YEAST | | Yes | 4932.YDR096W | TPK2 | TPK2 | S351;S694;S799 |
| ATR_YEAST | | Yes | 4932.YBR136W | TPK1;TPK2 | TPK1;TPK2 | S354;T1074;T1137;S2111;S2285 |
| GLN3_YEAST | | Yes | 4932.YER040W | TPK1 | TPK1 | S38;S267;S285;S344;S355;S395;S480;S483 ;S484;S576;S580;S653;S656;S684 |
| SOK1_YEAST | | Yes | 4932.YDR006C | TPK1;TPK2;TPK3 | TPK1;TPK2;TPK3 | S38;S39;S92;S258;S527;S608 |

| Protein | | STRING ID | | | Sites |
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| PKH1_YEAST | Yes | 4932.YDR490C | TPK3 | TPK3 | S426;S493;S506;S511;S530;S610;S737;S74 |
| KC11_YEAST | Yes | | TPK2;TPK3 | | S44;S161;S234;S296;S321 |
| CDC27_YEAST | Yes | 4932.YBL084C | TPK2;TPK3 | TPK2;TPK3 | S448 |
| GPR1_YEAST | Yes | 4932.YDL035C | TPK2 | TPK2 | S450 |
| CDC20_YEAST | Yes | 4932.YGL116W | TPK1;TPK2 | TPK1;TPK2;TPK3 | S51;S52;S62;S88;S417;S602;S603 |
| PLC1_YEAST | Yes | 4932.YPL268W | TPK2 | TPK2 | S523;S602;S785 |
| IRA2_YEAST | Yes | 4932.YOL081W | TPK1;TPK2 | TPK1;TPK2 | S547;S630;S631;S882;S884;S1018;S1745;S1752;S2991;S3076 |
| BMH2_YEAST | Yes | 4932.YDR099W | TPK1 | TPK1 | S59 |
| BMH1_YEAST | Yes | 4932.YER177W | TPK1 | TPK1 | S59 |
| RIM15_YEAST | Yes | 4932.YFL033C | TPK1;TPK2;TPK3 | TPK1;TPK2;TPK3 | S599;S614;S620;S621;S632;S709;S1004;S1061;S1074;S1094;S1337;S1346;S1366;S1416;S1463;S1464;S1518;S1531;S1542;S1621;S1625;S1626;S1627 |
| CYAA_YEAST | Yes | 4932.YJL005W | TPK1 | TPK1;TPK2;TPK3 | S60;S71;S168;S178;S212;S234;S296;T475;S483;S487;S1594;T1647 |
| ATC1_YEAST | Yes | 4932.YGL167C | TPK1 | TPK1 | S69 |
| ROM2_YEAST | Yes | 4932.YLR371W | TPK1;TPK2 | TPK1;TPK2 | S76;S182;S193;S206;S207;S291;T315;S372;S383;S396;S628;S731 |
| COPB2_YEAST | Yes | | TPK3 | | S766 |
| CDC25_YEAST | Yes | 4932.YLR310C | TPK1 | TPK1;TPK2;TPK3 | S77;S135;S142;S150;S151;S168;S174;S442;S535;S596;S609;S825 |
| Q06251_YEAST | Yes | 4932.YLR177W | TPK2 | TPK2 | S84;S96;S179;T235 |
| TLG2_YEAST | Yes | 4932.YOL018C | TPK1 | TPK1 | S90;S101 |
| NOT3_YEAST | Yes | 4932.YIL038C | TPK1;TPK2 | TPK1;TPK2 | T158;S159;S324;T418;S501 |
| CHK1_YEAST | Yes | 4932.YBR274W | TPK2 | TPK1;TPK2 | T271;S286 |
| TFC3_YEAST | | 4932.YAL001C | | TPK2;TPK3 | S104;S222;S892 |
| CCR4_YEAST | | 4932.YAL021C | | TPK2 | S309 |
| GPB2_YEAST | | 4932.YAL056W | | TPK2 | S245;S457;S668;S822 |
| URA7_YEAST | | 4932.YBL039C | | TPK1;TPK2;TPK3 | S424 |
| MED19_YEAST | | 4932.YBL093C | | TPK2 | S198 |
| TREB_YEAST | | 4932.YBR001C | | TPK1 | S52;S78;S112 |
| YBQ2_YEAST | | 4932.YBR052C | | TPK1 | S189 |

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|---|---|---|---|
| YBQ6_YEAST | 4932.YBR056W | TPK1;TPK2 | S90 |
| TEC1_YEAST | 4932.YBR083W | TPK2;TPK3 | S339 |
| SSN6_YEAST | 4932.YBR112C | TPK2 | S455;S876 |
| TPS1_YEAST | 4932.YBR126C | TPK1;TPK2 | S270 |
| YBY9_YEAST | 4932.YBR139W | TPK1;TPK2 | S285 |
| ERF1_YEAST | 4932.YBR143C | TPK2 | S67 |
| CDC28_YEAST | 4932.YBR160W | TPK1;TPK2;TPK3 | S60 |
| HSP79_YEAST | 4932.YBR169C | TPK1;TPK2 | S678 |
| YB64_YEAST | 4932.YBR214W | TPK2 | S26;S438;S439;S524 |
| YB80_YEAST | 4932.YBR230C | TPK1;TPK2 | S40 |
| ADP1_YEAST | 4932.YCR011C | TPK1 | S539 |
| TUP1_YEAST | 4932.YCR084C | TPK2 | S393;S674 |
| GPD1_YEAST | 4932.YDL022W | TPK2 | S21;S22;S23 |
| ARP2_YEAST | 4932.YDL029W | TPK3 | S46 |
| PMT1_YEAST | 4932.YDL095W | TPK2 | S339;S452;S527;S751 |
| DUN1_YEAST | 4932.YDL101C | TPK1;TPK2;TPK3 | S153 |
| Q07551_YEAST | 4932.YDL124W | TPK1 | S266 |
| TPS2_YEAST | 4932.YDR074W | TPK1;TPK2 | S890 |
| HSP42_YEAST | 4932.YDR171W | TPK1;TPK2 | S214 |
| GGA1_YEAST | 4932.YDR358W | TPK1;TPK2 | S372;S463 |
| SAC7_YEAST | 4932.YDR389W | TPK3 | T305;S409;S510;S632 |
| ARO80_YEAST | 4932.YDR421W | TPK2 | S8;T21;S182;S209;S687;S784;S805;S806 |
| PPZ2_YEAST | 4932.YDR436W | TPK2 | S54;S73;S74;S86;S110;S111;S116;S117;S202;S223;S251;S259;S281;S332;S346;S347;S579 |
| KGUA_YEAST | 4932.YDR454C | TPK1;TPK2;TPK3 | S89;S148 |
| EMI2_YEAST | 4932.YDR516C | TPK1;TPK2 | S236 |
| SPS1_YEAST | 4932.YDR523C | TPK1;TPK2;TPK3 | S329 |
| ACEA_YEAST | 4932.YER065C | TPK2 | S257 |
| VTC1_YEAST | 4932.YER072W | TPK2;TPK3 | S91 |
| YEQ9_YEAST | 4932.YER079W | TPK1;TPK2 | S41 |
| KC13_YEAST | 4932.YER123W | TPK2 | S123;S212 |
| MOB2_YEAST | 4932.YFL034C- | TPK1 | S28;S147 |
| UTP14_YEAST | 4932.YFL034C- | TPK1 | S6;S10;S12;T377;S678;S874 |

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|---|---|---|---|
| SNO3_YEAST | 4932.YFL060C | TPK2 | S37 |
| HXKA_YEAST | 4932.YFR053C | TPK1;TPK2 | S15 |
| ATC2_YEAST | 4932.YGL006W | TPK2 | S659;T800;S968 |
| PNC1_YEAST | 4932.YGL037C | TPK1;TPK2 | S59 |
| HSF_YEAST | 4932.YGL073W | TPK2 | S87;S545;S568;S668 |
| MAN1_YEAST | 4932.YGL156W | TPK1 | S48;S77 |
| CLH_YEAST | 4932.YGL206C | TPK1 | S194;S1103;S1254 |
| PDE1_YEAST | 4932.YGL248W | TPK1 | S252 |
| HXKB_YEAST | 4932.YGL253W | TPK3 | S14;S384 |
| Q45U43_YEAST | 4932.YGR040W | TPK1;TPK2;TPK3 | S303 |
| CATT_YEAST | 4932.YGR088W | TPK2;TPK3 | S7 |
| YG3L_YEAST | 4932.YGR149W | TPK2 | S288 |
| XKS1_YEAST | 4932.YGR194C | TPK1;TPK2 | S14;S244 |
| PMT6_YEAST | 4932.YGR199W | TPK2 | T646 |
| COQ6_YEAST | 4932.YGR255C | TPK1 | S211 |
| STE20_YEAST | 4932.YHL007C | TPK1 | S98;T203;S289;S313;S320;S321;S522;T773; S861 |
| YHC1_YEAST | 4932.YHL021C | TPK1;TPK2 | S73 |
| GPA1_YEAST | 4932.YHR005C | TPK1 | S224 |
| STE12_YEAST | 4932.YHR084W | TPK2;TPK3 | S177;S218;S219;S561;T585;S680 |
| YHP7_YEAST | 4932.YHR097C | TPK1;TPK2 | S90;S91;S107;S118;S288;S294 |
| ATG7_YEAST | 4932.YHR171W | TPK1;TPK2 | S149 |
| OM45_YEAST | 4932.YIL136W | TPK1;TPK2 | S243 |
| MUC1_YEAST | 4932.YIR019C | TPK2 | S211;T300 |
| GPX3_YEAST | 4932.YIR037W | TPK2 | S144 |
| KJF7_YEAST | 4932.YJL057C | TPK2 | S96;S424 |
| YJG6_YEAST | 4932.YJL066C | TPK1;TPK2 | S199 |
| PYR1_YEAST | 4932.YJL130C | TPK3 | S126;S173;S731;S734;S1857 |
| YJQ3_YEAST | 4932.YJL163C | TPK2 | S61 |
| YJX8_YEAST | 4932.YJR008W | TPK1;TPK2 | S157 |
| BFA1_YEAST | 4932.YJR053W | TPK2 | S138;S161;S266;S452;S453;S461;S559 |
| PTK2_YEAST | 4932.YJR059W | TPK2;TPK3 | T56;S80;S82;S171;S585;T586;S752 |
| IME1_YEAST | 4932.YJR094C | TPK2 | S124;S130;S131 |
| URA8_YEAST | 4932.YJR103W | TPK1;TPK2;TPK3 | S424 |

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|---|---|---|---|
| ZMS1_YEAST | 4932.YJR127C | TPK2;TPK3 | T215;S231;S344;S435;S535;S627;S647;S690;S1059 |
| YKD8_YEAST | 4932.YKL038W | TPK3 | T41;S202;S282;S283;S284;S293;S359;S410;S480;S492;S625;S845;S1118;S1130 |
| YKG5_YEAST | 4932.YKL065C | TPK1 | S154 |
| YKK0_YEAST | 4932.YKL100C | TPK2 | S24 |
| AMPL_YEAST | 4932.YKL103C | TPK1;TPK2 | S362;S363 |
| MYO3_YEAST | 4932.YKL129C | TPK3 | S357;S775;S777;S871;S1070;S1076 |
| YKZ1_YEAST | 4932.YKR011C | TPK1 | S231 |
| GPT2_YEAST | 4932.YKR067W | TPK1;TPK2 | S182;S642;S649;S651;S671 |
| ECM4_YEAST | 4932.YKR076W | TPK1;TPK2 | S18 |
| HS104_YEAST | 4932.YLL026W | TPK1;TPK2 | S454;S562 |
| Q99296_YEAST | 4932.YLR149C | TPK2 | S89;S483;S533;S547;S554;S723 |
| Q06146_YEAST | 4932.YLR257W | TPK2 | S121;S135;S229;S263 |
| DCPS_YEAST | 4932.YLR270W | TPK1;TPK2 | S60 |
| STFL_YEAST | 4932.YLR327C | TPK2 | S68;S78 |
| Q07229_YEAST | 4932.YLR337C | TPK3 | S210;S211;S453;S462;S551 |
| LGUL_YEAST | 4932.YML004C | TPK2 | S144 |
| PPZ1_YEAST | 4932.YML016C | TPK2 | S12;S48;S80;S81;S115;S120;S121;S159;S188;S191;S197;S202;S208;S238;S249 |
| TSL1_YEAST | 4932.YML100W | TPK1;TPK2 | S85;S86;S216;S229 |
| MSC1_YEAST | 4932.YML128C | TPK1;TPK2 | S295 |
| BUB2_YEAST | 4932.YMR055C | TPK2 | S98 |
| PGM2_YEAST | 4932.YMR105C | TPK1;TPK2 | S374 |
| YM00_YEAST | 4932.YMR110C | TPK1;TPK2 | S111 |
| VTI1_YEAST | 4932.YMR197C | TPK1;TPK2 | S21 |
| MTF1_YEAST | 4932.YMR228W | TPK2;TPK3 | S73;S80 |
| DCE_YEAST | 4932.YMR250W | TPK1;TPK2 | S52;S545 |
| CAT8_YEAST | 4932.YMR280C | TPK2;TPK3 | S34;S35;S773;S1027;S1068;S1345;S1349;S1387;S1412 |
| YM94_YEAST | 4932.YMR315W | TPK2 | S213 |
| SSN8_YEAST | 4932.YNL025C | TPK2 | S20 |
| CAP_YEAST | 4932.YNL138W | TPK2;TPK3 | S343 |
| MED16_YEAST | 4932.YNL236W | TPK2 | T182;S415;S431;S927 |

| Protein | Flag | ORF | Kinase | Kinase | Sites |
|---|---|---|---|---|---|
| BNI1_YEAST | | 4932.YNL271C | | TPK3 | S79;S119;S131;S132;S244;S740;T1138 |
| MET2_YEAST | | 4932.YNL277W | | TPK3 | S206;S255;S271 |
| SNO2_YEAST | | 4932.YNL334C | | TPK2 | S37 |
| CISY1_YEAST | | 4932.YNR001C | | TPK2 | S38 |
| SIN3_YEAST | | 4932.YOL004W | | TPK2 | S66;S111;S112;S602;S1276;S1459 |
| ATG19_YEAST | | 4932.YOL082W | | TPK1 | S365 |
| ARGD_YEAST | | 4932.YOL140W | | TPK2;TPK3 | S7;S333 |
| WHI2_YEAST | | 4932.YOR043W | | TPK2 | S367;S380;S386 |
| THI80_YEAST | | 4932.YOR143C | | TPK2;TPK3 | S285 |
| LAS17_YEAST | | 4932.YOR181W | | TPK3 | T619 |
| Q12044_YEAST | | 4932.YOR220W | | TPK2 | S104;S186;S187;S198 |
| Q12305_YEAST | | 4932.YOR285W | | TPK2 | S50 |
| PDE2_YEAST | | 4932.YOR360C | | TPK1;TPK2;TPK3 | S111;S176;S235;S409 |
| ALDH4_YEAST | | 4932.YOR374W | | TPK1;TPK2 | S500 |
| LSP1_YEAST | | 4932.YPL004C | | TPK1;TPK2 | S59 |
| PHO85_YEAST | | 4932.YPL031C | | TPK1;TPK2;TPK3 | S55 |
| YDC1_YEAST | | 4932.YPL087W | | TPK1;TPK2 | S130 |
| GPI3_YEAST | | 4932.YPL175W | | TPK2 | S208 |
| PPQ1_YEAST | | 4932.YPL179W | | TPK2 | S6;S80;S134;S135;S229;S382 |
| Q12523_YEAST | | 4932.YPL247C | | TPK2 | S12;S65 |
| ATH1_YEAST | | 4932.YPR026W | | TPK1 | S111;S695;S746;S1149 |
| GDE_YEAST | | 4932.YPR184W | | TPK1 | S1056 |
| OPI1_YEAST | | | | | S31 |
| TLG1_YEAST | Yes | 4932.YDR468C | TPK1 | TPK1 | |
| GPA2_YEAST | Yes | 4932.YER020W | TPK2 | TPK2 | |
| APC10_YEAST | Yes | 4932.YGL240W | TPK1;TPK2;TPK3 | TPK1;TPK2;TPK3 | |
| SMD2_YEAST | Yes | 4932.YLR275W | TPK1 | TPK1 | |
| YPT7_YEAST | Yes | 4932.YML001W | TPK3 | TPK3 | |
| PUR2_YEAST | Yes | | TPK3 | | |
| YAN8_YEAST | Yes | | TPK3 | | |
| YHJ3_YEAST | Yes | | TPK3 | | |
| YAG1_YEAST | | 4932.YAL061W | | TPK1 | |
| RFA1_YEAST | | 4932.YAR007C | | TPK2;TPK3 | |
| FUS3_YEAST | | 4932.YBL016W | | TPK1;TPK2;TPK3 | |

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| PRX1_YEAST | 4932.YBL064C | TPK1;TPK2 |
| ATG8_YEAST | 4932.YBL078C | TPK2 |
| GAL10_YEAST | 4932.YBR019C | TPK3 |
| YBQ3_YEAST | 4932.YBR053C | TPK1;TPK2 |
| HSP26_YEAST | 4932.YBR072W | TPK1;TPK2 |
| ARA1_YEAST | 4932.YBR149W | TPK2 |
| DPB3_YEAST | 4932.YBR278W | TPK2;TPK3 |
| GLRX1_YEAST | 4932.YCL035C | TPK1;TPK2 |
| HXKG_YEAST | 4932.YCL040W | TPK1;TPK2 |
| STDH_YEAST | 4932.YCL064C | TPK3 |
| SYNM_YEAST | 4932.YCR024C | TPK2 |
| PMG2_YEAST | 4932.YDL021W | TPK1 |
| KIN28_YEAST | 4932.YDL108W | TPK1;TPK2;TPK3 |
| RCR2_YEAST | 4932.YDR003W | TPK2 |
| INO2_YEAST | 4932.YDR123C | TPK2;TPK3 |
| CYPH_YEAST | 4932.YDR155C | TPK2 |
| RM41_YEAST | 4932.YDR405W | TPK3 |
| GLRX2_YEAST | 4932.YDR513W | TPK2 |
| GLGB_YEAST | 4932.YEL011W | TPK1;TPK2 |
| UBC8_YEAST | 4932.YEL012W | TPK1;TPK2 |
| PIC2_YEAST | 4932.YER053C | TPK1;TPK2 |
| YEP7_YEAST | 4932.YER067W | TPK1 |
| GLE2_YEAST | 4932.YER107C | TPK1 |
| YEY0_YEAST | 4932.YER150W | TPK1;TPK2 |
| HSP12_YEAST | 4932.YFL014W | TPK2 |
| ALG9_YEAST | 4932.YFL034C- | TPK1 |
| MOB1_YEAST | 4932.YFL034C- | TPK1 |
| GYS1_YEAST | 4932.YFR015C | TPK1 |
| GATA_YEAST | 4932.YGR019W | TPK1;TPK2 |
| Q45TA6_YEAST | 4932.YGR044C | TPK2 |
| KG1Z_YEAST | 4932.YGR052W | TPK1;TPK2;TPK3 |
| YG2W_YEAST | 4932.YGR111W | TPK1;TPK2 |
| YG3P_YEAST | 4932.YGR154C | TPK2 |
| SOL4_YEAST | 4932.YGR248W | TPK1;TPK2 |

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| GRE3_YEAST | 4932.YHR104W | TPK1;TPK2 |
| YHT8_YEAST | 4932.YHR138C | TPK2 |
| AYR1_YEAST | 4932.YIL124W | TPK1;TPK2 |
| GST1_YEAST | 4932.YIR038C | TPK1;TPK2 |
| ZAP1_YEAST | 4932.YJL056C | TPK2;TPK3 |
| RPE_YEAST | 4932.YJL121C | TPK1;TPK2;TPK3 |
| F26_YEAST | 4932.YJL155C | TPK1;TPK2 |
| YJQ1_YEAST | 4932.YJL161W | TPK1 |
| YJ66_YEAST | 4932.YJR096W | TPK1;TPK2 |
| UGPA1_YEAST | 4932.YKL035W | TPK1;TPK2 |
| NDK_YEAST | 4932.YKL067W | TPK1 |
| YKJ1_YEAST | 4932.YKL091C | TPK1;TPK2 |
| OAC1_YEAST | 4932.YKL120W | TPK2 |
| RT08_YEAST | 4932.YKL142W | TPK1;TPK2 |
| MCR1_YEAST | 4932.YKL150W | TPK2 |
| YKP1_YEAST | 4932.YKL151C | TPK1;TPK2 |
| RM49_YEAST | 4932.YKL167C | TPK3 |
| GAP1_YEAST | 4932.YKR039W | TPK2 |
| CPYI_YEAST | 4932.YLR178C | TPK1;TPK2;TPK3 |
| Q06563_YEAST | 4932.YLR251W | TPK1;TPK2 |
| MET17_YEAST | 4932.YLR303W | TPK3 |
| APT1_YEAST | 4932.YML022W | TPK3 |
| YMY0_YEAST | 4932.YMR090W | TPK1;TPK2 |
| MDS1_YEAST | 4932.YMR139W | TPK1;TPK2;TPK3 |
| YM27_YEAST | 4932.YMR152W | TPK2 |
| ALDH2_YEAST | 4932.YMR170C | TPK1;TPK2 |
| END3_YEAST | 4932.YNL084C | TPK3 |
| YNL5_YEAST | 4932.YNL115C | TPK1 |
| YGP1_YEAST | 4932.YNL160W | TPK1 |
| YNU0_YEAST | 4932.YNL200C | TPK1;TPK2 |
| YN14_YEAST | 4932.YNL274C | TPK2 |
| YN45_YEAST | 4932.YNL305C | TPK2 |
| YOE8_YEAST | 4932.YOL048C | TPK1;TPK2 |
| Q12292_YEAST | 4932.YOL083W | TPK1 |

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|---|---|---|
| CSK22_YEAST | 4932.YOR061W | TPK1;TPK3 |
| GCY_YEAST | 4932.YOR120W | TPK2 |
| UME5_YEAST | 4932.YPL042C | TPK2 |
| CARP_YEAST | 4932.YPL154C | TPK1;TPK2 |
| ROX1_YEAST | 4932.YPR065W | TPK2;TPK3 |

**Supplementary Table 2** – Predicted PKA substrates in *C. elegans*. There are no PKA sites identified experimentally.

| UniProt (SRS) | Exp. PPI | STRING PPI | GPS (PKA) |
|---|---|---|---|
| YWM3_CAEEL | Yes | 6239.ZK970.3 | S13 |
| KAPR_CAEEL | Yes | 6239.R07E4.6a | S122 |
| Q965V1_CAEEL | | 6239.Y48G1BM.5 | T89;S463;S562;T598;S599;S605 |
| H4_CAEEL | | 6239.K06C4.2 | T80 |
| Q2AAB7_CAEEL | | 6239.Y92H12A.6 | T558 |
| Q9U397_CAEEL | | 6239.R06B9.5 | T54;S60 |
| Q8T6F8_CAEEL | | 6239.Y92H12A.1 | T509 |
| Q9N329_CAEEL | | 6239.Y59E9AL.5 | T50;S62 |
| Q95XH8_CAEEL | | 6239.Y69A2AR.26 | T49;S282 |
| Q7Z1J6_CAEEL | | 6239.F23A7.7 | T49;S130;S625;S666 |
| Q9NEW5_CAEEL | | 6239.Y111B2A.19 | T385 |
| Q6F3C9_CAEEL | | 6239.Y58G8A.4b | T381 |
| Q9NEK3_CAEEL | | 6239.Y116F11B.6 | T342 |
| Q9GRU9_CAEEL | | 6239.Y94A7B.9 | T317 |
| Q9U1Z9_CAEEL | | 6239.Y60A3A.5 | T302 |
| Q9N4T2_CAEEL | | 6239.Y50D4B.6 | T283 |
| Q9U399_CAEEL | | 6239.R04D3.12 | T217 |
| Q9N3T1_CAEEL | | 6239.Y47G6A.16 | T185;T224;S347;S397;S455 |
| Q60F74_CAEEL | | 6239.Y39D8B.1 | T177;T232;S353;S481 |
| Q95XE3_CAEEL | | 6239.Y73B3A.20 | T17;S18 |
| Q94274_CAEEL | | 6239.K10C2.6 | S98 |
| Q9N3W5_CAEEL | | 6239.Y46C8AL.5.1 | S95 |
| Q8MYM6_CAEEL | | 6239.Y39B6A.38 | S90;S152;S233;S247 |
| Q9N3C0_CAEEL | | 6239.Y54G2A.13 | S89;S564;S565 |
| Q5FC52_CAEEL | | 6239.F15H10.9 | S86 |
| Q95ZR4_CAEEL | | 6239.M02F4.9 | S86 |
| Q7K6X0_CAEEL | | 6239.Y105E8A.7a | S842 |
| Q9N2Z2_CAEEL | | 6239.Y69A2AL.1 | S82;T83;S196;S215;S224;S299;S317 |
| Q95YA2_CAEEL | | 6239.H23L24.3b | S79;S95;S96;T126;S198;S678 |
| YKT2_CAEEL | | 6239.C07A9.12 | S78 |
| Q95XM3_CAEEL | | 6239.Y71G12B.5 | S769;S891 |

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|---|---|---|
| Q9N4X3_CAEEL | 6239.Y46B2A.3 | S76;S85;T255;T279;T303;T327;T375;T423;T447;T471;T519;T597;T645;T693;T717;T795;T897;S1035 |
| Q7Z148_CAEEL | 6239.Y47G6A.30 | S76 |
| Q966E6_CAEEL | 6239.Y119D3A.4 | S76 |
| Q967F7_CAEEL | 6239.C25F6.7a | S75;T114;S299 |
| Q8I133_CAEEL | 6239.2RSSE.1 | S75;S324 |
| Q965S5_CAEEL | 6239.Y75B7AL.3 | S75;S271;S448 |
| Q95XH4_CAEEL | 6239.Y69A2AR.8 | S73;S74;S109 |
| Q965Z1_CAEEL | 6239.F07B7.6 | S72;S827;S1009;T1486 |
| Q8MPZ5_CAEEL | 6239.R11G1.6b | S715;S717 |
| Q9N5M5_CAEEL | 6239.H16O14.1 | S694;S836;S926;S927 |
| Q868B4_CAEEL | 6239.ZK643.8 | S691 |
| Q95R15_CAEEL | 6239.F43E2.11 | S69 |
| Q9XX36_CAEEL | 6239.Y32B12B.1 | S69 |
| Q8I4K0_CAEEL | 6239.F32H5.8 | S68 |
| Q9N479_CAEEL | 6239.Y1B5A.1 | S68 |
| Q9U275_CAEEL | 6239.Y50E8A.16 | S67;S194;S195 |
| Q965Z8_CAEEL | 6239.ZK105.3 | S67 |
| Q9N4S5_CAEEL | 6239.Y52D5A.1 | S662;S773;S895 |
| Q9N487_CAEEL | 6239.Y16E11A.1 | S66;S279;S366 |
| Q95ZJ6_CAEEL | 6239.Y113G7A.15 | S65 |
| Q9NLD4_CAEEL | 6239.F58D5.6 | S642 |
| Q9NA27_CAEEL | 6239.Y87G2A.12 | S636;S760 |
| Q9GYH0_CAEEL | 6239.K06C4.7 | S63 |
| Q7YWT1_CAEEL | 6239.Y26D4A.14 | S621;S714;S723 |
| Q9N5Y9_CAEEL | 6239.C09E7.5 | S61;S310;S371;S400 |
| Q9N4B3_CAEEL | 6239.Y77E11A.9 | S60 |
| Q86GC4_CAEEL | 6239.C55A1.11 | S6;S57 |
| Q9Y055_CAEEL | 6239.Y73B6BL.7 | S587 |
| Q9U1U7_CAEEL | 6239.Y67A10A.3 | S584;T609;S677;S713;S955 |
| Q95XW4_CAEEL | 6239.Y55F3C.7b | S57;S215;S366;S374;S415;S444 |
| Q9U1Z0_CAEEL | 6239.Y60A3A.16 | S57;S123 |
| Q9BL96_CAEEL | 6239.Y18H1A.10 | S55;S318 |
| Q966D1_CAEEL | 6239.Y19D10A.14 | S55 |

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|---|---|---|
| Q9GRV5_CAEEL | 6239.Y71A12B.4 | S53;S75;S76;S101;S212;S386;S1107 |
| O61371_CAEEL | 6239.Y44E3A.2 | S521;S598 |
| Q9BKZ9_CAEEL | 6239.Y54F10AM.2c | S517 |
| Q966B5_CAEEL | 6239.Y46H3D.4 | S513 |
| Q9U379_CAEEL | 6239.T06D10.1.1 | S5;T155 |
| Q9NA49_CAEEL | 6239.Y73F8A.23 | S5 |
| Q9U317_CAEEL | 6239.Y105C5B.2 | S499;S507;S723;S996;S1052;S1053 |
| Q9U3N0_CAEEL | 6239.C38D9.9 | S48;S370 |
| Q9BKW6_CAEEL | 6239.Y92H12A.4 | S476;S503 |
| Q9N4H2_CAEEL | 6239.Y71F9AL.2 | S476 |
| Q9N4N7_CAEEL | 6239.ZK355.5 | S461 |
| Q9N3K5_CAEEL | 6239.Y50D7A.8 | S446 |
| Q965R8_CAEEL | 6239.Y97E10B.4 | S44 |
| Q9BL72_CAEEL | 6239.Y48G9A.4 | S439;S525;T526;S1026;S1086 |
| Q9NAN0_CAEEL | 6239.W06G6.13 | S42;S47 |
| Q95XU9_CAEEL | 6239.Y57E12B.1 | S42 |
| Q9N4V6_CAEEL | 6239.Y47D9A.3 | S40 |
| Q965P9_CAEEL | 6239.Y22D7AL.4 | S396 |
| Q95XG0_CAEEL | 6239.Y73B3A.10 | S39;S52 |
| Q9N566_CAEEL | 6239.Y19D10B.6 | S383 |
| Q7YTT2_CAEEL | 6239.F28F8.8 | S38;T138 |
| Q95XA4_CAEEL | 6239.Y20F4.5 | S38;S68;S273 |
| Q95XN5_CAEEL | 6239.Y71G12B.13 | S373;S390 |
| Q965Z3_CAEEL | 6239.ZK105.6 | S363 |
| Q9N4M7_CAEEL | 6239.ZK616.9 | S35;T159;T160 |
| Q9N3B3_CAEEL | 6239.Y54G2A.20 | S35;S118;T127 |
| Q966E9_CAEEL | 6239.W06H8.7 | S349;S350 |
| Q8MYP4_CAEEL | 6239.Y39B6A.8 | S349 |
| Q9N4M8_CAEEL | 6239.ZK616.8 | S34;S214;T278;S330 |
| Q86PJ9_CAEEL | 6239.Y47D7A.4 | S339 |
| YQL2_CAEEL | 6239.C56G7.2 | S320 |
| Q9N3M5_CAEEL | 6239.Y48G9A.3 | S32;T59;S337;S455;S508 |
| Q95ZM1_CAEEL | 6239.F36H5.11 | S311 |
| Q9U1V0_CAEEL | 6239.Y67A10A.9 | S310;S321;S456;S623 |

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|---|---|---|
| Q9GUF0_CAEEL | 6239.Y73B6BL.26 | S295;T296 |
| Q9N4K4_CAEEL | 6239.C52E2.8 | S291 |
| Q9NEJ5_CAEEL | 6239.Y116F11B.13 | S29 |
| Q9U3N1_CAEEL | 6239.C38D9.6 | S288;S306 |
| Q9N407_CAEEL | 6239.Y39A3CR.3 | S288 |
| PDE6_CAEEL | 6239.Y95B8A.10 | S279;S292;S328;S412;S423;S431;S560 |
| Q9NAL8_CAEEL | 6239.Y105C5B.25 | S277 |
| O62354_CAEEL | 6239.T02G6.4 | S276 |
| Q5FAM6_CAEEL | 6239.Y49C4A.2 | S274 |
| Q966F9_CAEEL | 6239.T01C2.1 | S27;S73;T80 |
| Q7YZF9_CAEEL | 6239.B0304.9 | S27;S52 |
| Q5FC17_CAEEL | 6239.Y41E3.18 | S27;S36 |
| Q9N541_CAEEL | 6239.Y2C2A.1 | S27;S31;S151;S181;S238;S332;S426;S520;S614;S708;S802;S896;S907;S990;S1084;S1178;S1189;S1272;S1366;S1460;S1554;S1565;S1648;S1742;S1836;S1996;S2129;S2223;S2317;S2411;S2505;S2599;S2666;S2760;S2854;S3679;S3773;S3919;S4319;S4420;S4579;S4623;S4666 |
| Q9N569_CAEEL | 6239.Y19D10B.4 | S266;S748;S749 |
| Q9N5X3_CAEEL | 6239.C39B5.8 | S263 |
| Q8WQA0_CAEEL | 6239.Y105E8A.24a | S26;S27;S96;S170;S662;T910;S992;S1107 |
| Q9N3X0_CAEEL | 6239.Y46C8AL.3 | S257 |
| Q8WQB1_CAEEL | 6239.Y105E8A.12 | S256;S733 |
| Q966H4_CAEEL | 6239.M02H5.1 | S256 |
| Q6BEU7_CAEEL | 6239.C26D10.7 | S253 |
| Q9GUB7_CAEEL | 6239.F25E5.13 | S252 |
| Q8WR45_CAEEL | 6239.Y54G2A.25a | S241;S872 |
| Q9U1S5_CAEEL | 6239.Y75B8A.35a.2 | S241;S304 |
| OSM3_CAEEL | 6239.M02B7.3b | S240;S654 |
| Q9NA50_CAEEL | 6239.Y73F8A.22 | S237 |
| Q9N4T9_CAEEL | 6239.Y49F6B.11 | S235 |
| Q19248_CAEEL | 6239.F09E10.5 | S234;S251 |
| Q9NAB6_CAEEL | 6239.Y53F4B.24 | S233;S750 |
| Q5DX31_CAEEL | 6239.F47D2.10b | S232 |
| Q5WRN9_CAEEL | 6239.F08G5.7 | S231 |
| Q9N5I7_CAEEL | 6239.K09D9.8 | S231 |

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|---|---|---|
| Q9TXQ7_CAEEL | 6239.C01G5.9 | S230 |
| Q5F4U6_CAEEL | 6239.C05E4.14b | S227 |
| Q95XE7_CAEEL | 6239.Y73B3A.16 | S225;S266 |
| Q9N5M7_CAEEL | 6239.H12I13.3 | S221 |
| Q9U1V3_CAEEL | 6239.Y67A10A.6 | S22;S90 |
| Q65XY1_CAEEL | 6239.Y119C1B.3 | S22;S23;S404;S405;S406;S418;S419 |
| Q23551_CAEEL | 6239.ZK617.1b | S219;T220;S283;S284;S330;S340;S422;S509;S511;S523;T524;S542;S543;T602;T622;S695;S816;S923;S932;S946;S951;S958;S1088;S1119;S1736;S2746;S4203;S4328;S4508;S6838;S6904 |
| Q9U316_CAEEL | 6239.Y105C5B.4 | S219 |
| Q9GRV2_CAEEL | 6239.Y71A12B.9 | S218;S548 |
| Q9N5W5_CAEEL | 6239.Y53H1B.5 | S218 |
| Q95XW7_CAEEL | 6239.Y55B1BR.2 | S217;S540;S549;S552 |
| Q9N5U3_CAEEL | 6239.F40C5.1 | S215 |
| Q9N415_CAEEL | 6239.Y39A3CL.2 | S214;S665;T897;T898;S1259;S1295;S1311;S1325 |
| Q9GS12_CAEEL | 6239.F56H6.13 | S214;S215 |
| Q20482_CAEEL | 6239.R04D3.10 | S214 |
| Q9N4L1_CAEEL | 6239.C52E2.5 | S213;S339;S578;S580 |
| Q5WRK7_CAEEL | 6239.Y7A9C.8 | S213 |
| Q9N3X5_CAEEL | 6239.Y43B11AR.2 | S212 |
| Q8MYP2_CAEEL | 6239.Y39B6A.15 | S211;S230;S367 |
| Q6BES4_CAEEL | 6239.C34B4.3 | S21;T140;S141;T222 |
| Q966C9_CAEEL | 6239.Y19D10B.1 | S21;S74 |
| Q9N4D5_CAEEL | 6239.Y74C9A.1 | S21;S203 |
| Q86DM2_CAEEL | 6239.Y73B6BL.41 | S209 |
| Q5F4U8_CAEEL | 6239.R09E12.8 | S206 |
| Q8MQG4_CAEEL | 6239.B0024.15 | S206 |
| Q6BES6_CAEEL | 6239.C34B4.5 | S203 |
| Q9U2B6_CAEEL | 6239.Y47H10A.3 | S202 |
| Q95QG6_CAEEL | 6239.F41H10.12 | S20;S23 |
| Q9GRU8_CAEEL | 6239.Y94A7B.8 | S199 |

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|---|---|---|
| Q8ISF7_CAEEL | 6239.W06H8.8g | S198;S344;S345;S1437;S1783;S1904;S1963;S2075;S2158;T2166;S2312;S2358;S2376;S2410;S2454;S2616;S4251;S4493;S4577;S4751;S4912;S5268;S5429;S6214;S6314;S6977;S8640;S8642;S8987;T8988;S9089;T9241;T9253;S9723;S10593;T10648;S10651;S10725;S10739;S10831;S10995;S11257;S11291;S11324;S11667;S11671;S11742;T11927;S12113;S12630;S12746;S12780;S13108;S13274;S13356;S13817;S13847;S13848;T13873;S13975;S14404;S15119;S15153;S15422;S15483;S16179;T16251;S16369;S16385;S16812;S16814;S16816;S16820;S17387;S17498;S17846;S17908;S17909;S17978;S18114 |
| Q8I4K2_CAEEL | 6239.F32D8.12a | S198;S199 |
| Q9N5G7_CAEEL | 6239.R05D8.4 | S198 |
| Q9N5G6_CAEEL | 6239.R05D8.5 | S197;S222 |
| Q9U1W5_CAEEL | 6239.Y62E10A.16 | S194 |
| Q965Y9_CAEEL | 6239.F07B7.12 | S190;S1469 |
| Q9U2L6_CAEEL | 6239.Y39C12A.5 | S189;S286 |
| Q965V5_CAEEL | 6239.Y47C4A.1 | S189 |
| Q9N3T0_CAEEL | 6239.Y47G6A.17 | S185;T274;S895;S1074 |
| Q23371_CAEEL | 6239.ZC53.4 | S184;S568;T866;S1186 |
| Q9NA40_CAEEL | 6239.Y73F8A.5 | S183 |
| Q9GRV6_CAEEL | 6239.Y116F11B.11 | S180;S338 |
| Q8T7Y5_CAEEL | 6239.K02H11.9 | S177 |
| Q965Y3_CAEEL | 6239.Y23H5B.7a | S176 |
| Q9TXR0_CAEEL | 6239.C44E4.7 | S174;S771;T772 |
| Q9NAK3_CAEEL | 6239.Y38E10A.8 | S173 |
| Q9U313_CAEEL | 6239.Y105C5B.11 | S17;S452 |
| Q95Y26_CAEEL | 6239.Y41D4A.5 | S164;S336 |
| Q95XF1_CAEEL | 6239.Y73B3A.15 | S162 |
| Q95XS6_CAEEL | 6239.Y38F2AR.6 | S162 |
| YMV2_CAEEL | 6239.K04H4.2c.1 | S161;S162;S944 |
| Q965U5_CAEEL | 6239.Y48G1BM.9 | S155;S223 |
| Q8WTL4_CAEEL | 6239.Y51H7BM.1 | S151;S210 |
| Q9N556_CAEEL | 6239.Y24D9A.6 | S150 |
| Q9NET1_CAEEL | 6239.Y39B6A.4 | S150 |
| GPA16_CAEEL | 6239.Y95B8A.5 | S15 |
| Q8IFY2_CAEEL | 6239.C44C3.9 | S147;T148 |

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|---|---|---|
| Q2V4Y2_CAEEL | 6239.C30A5.10a | S146;S149 |
| Q9N485_CAEEL | 6239.Y17G9A.3 | S144;S193 |
| Q86GC5_CAEEL | 6239.C14A4.15 | S143 |
| Q95XU8_CAEEL | 6239.Y59H11AM.4 | S141;S161 |
| Q9U3N2_CAEEL | 6239.C38D9.7 | S141 |
| Q22586_CAEEL | 6239.T19D7.5 | S14;S72 |
| Q71JP9_CAEEL | 6239.Y74C10AR.3 | S14;S622 |
| Q9TYX4_CAEEL | 6239.Y108G3AL.5 | S14;S497;T529;S544 |
| Q2XMY9_CAEEL | 6239.F02E9.9.1 | S14 |
| Q9N533_CAEEL | 6239.Y32H12A.8 | S138;S275;S328;S1079;S1080;T1258;S1291;S1292;S1328;S1364;S1380;S1483;S1484;S1485;S1603;S2136;S2137;S2233;S2320;S2600;S2800;S2885;S2897;S2902;T3701;T3709;S3739 |
| Q86D05_CAEEL | 6239.M01B2.11 | S137;S268 |
| Q9BL48_CAEEL | 6239.Y71H2AM.8 | S133 |
| Q9N2S2_CAEEL | 6239.Y9C9A.15 | S13 |
| Q9N3B2_CAEEL | 6239.Y54G2A.21 | S128;S194;T613;S890;S1015 |
| Q9N2L3_CAEEL | 6239.Y38C1AB.7 | S127 |
| Q8ITZ5_CAEEL | 6239.C36C5.8 | S125 |
| Q9NEM3_CAEEL | 6239.Y111B2A.5a | S12;S40 |
| O45911_CAEEL | 6239.Y17D7B.3 | S12;S22 |
| Q9GR67_CAEEL | 6239.Y34F4.3 | S12 |
| Q9NA45_CAEEL | 6239.Y73F8A.31 | S12 |
| P91553_CAEEL | 6239.ZC239.10 | S118;S228 |
| YKO9_CAEEL | 6239.C05B5.9 | S116 |
| Q9BL78_CAEEL | 6239.Y48G1C.5 | S1151 |
| Q9N5P3_CAEEL | 6239.H06I04.5 | S113;S153;S156;S294;S398 |
| Q86D08_CAEEL | 6239.F38C2.8 | S113 |
| Q95XQ1_CAEEL | 6239.Y39G10AR.17 | S11;S386;S443 |
| Q8WQA1_CAEEL | 6239.Y105E8A.20.1 | S108 |
| Q9N2U9_CAEEL | 6239.Y97E10AR.1 | S107;S534 |
| Q95Y23_CAEEL | 6239.Y41D4A.7 | S105 |
| Q2AAC0_CAEEL | 6239.Y71H2AM.3 | S102;T103;S104;S114;S459 |
| Q9NET4_CAEEL | 6239.Y39B6A.7 | S102 |
| Q9N4L3_CAEEL | 6239.ZK993.3 | S10 |

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|---|---|
| CSK2B_CAEEL | 6239.T01G9.6b.1 |
| O02250_CAEEL | 6239.F23B2.8 |
| O16622_CAEEL | 6239.F36H9.2 |
| O16623_CAEEL | 6239.F36H9.1 |
| O16853_CAEEL | 6239.Y54G2A.1 |
| O17033_CAEEL | 6239.T15B7.6 |
| O17083_CAEEL | 6239.ZC178.1 |
| O17256_CAEEL | 6239.K02E7.4 |
| O17675_CAEEL | 6239.C49A1.1 |
| O18011_CAEEL | 6239.T01G5.6 |
| O44946_CAEEL | 6239.C17F3.1 |
| O45347_CAEEL | 6239.F11F1.2 |
| O61953_CAEEL | 6239.F40C5.2 |
| O62227_CAEEL | 6239.Y69A2AR.11 |
| O76706_CAEEL | 6239.Y75D11A.1 |
| Q17641_CAEEL | 6239.C04G6.7 |
| Q19044_CAEEL | 6239.E03A3.5 |
| Q19172_CAEEL | 6239.F07G6.2 |
| Q19923_CAEEL | 6239.Y69A2AR.10 |
| Q22154_CAEEL | 6239.T04C10.3 |
| Q22217_CAEEL | 6239.T05C1.1 |
| Q22346_CAEEL | 6239.T08G2.2 |
| Q22880_CAEEL | 6239.B0507.4 |
| Q23216_CAEEL | 6239.W07G4.1 |
| Q23350_CAEEL | 6239.ZC487.3 |
| Q27397_CAEEL | 6239.M116.3 |
| Q2AAB7_CAEEL | 6239.Y92H12A.5 |
| Q3V5L0_CAEEL | 6239.Y71D11A.1 |
| Q5CZ34_CAEEL | 6239.C31A11.10 |
| Q5F4V4_CAEEL | 6239.C02A12.8 |
| Q5FC28_CAEEL | 6239.F57G9.7 |
| Q5FC32_CAEEL | 6239.T27C5.12 |
| Q5FC57_CAEEL | 6239.C08B6.14 |
| Q5FC63_CAEEL | 6239.AC3.9 |

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|---|---|
| Q5WRL6_CAEEL | 6239.K03D3.11 |
| Q5WRS0_CAEEL | 6239.T14E8.4 |
| Q67X95_CAEEL | 6239.Y75B8A.39 |
| Q688Z7_CAEEL | 6239.Y48G1BL.7 |
| Q6EZH0_CAEEL | 6239.F16B3.2 |
| Q6F6K4_CAEEL | 6239.F47F6.9 |
| Q75KS2_CAEEL | 6239.Y37F4.5 |
| Q7KX06_CAEEL | 6239.Y61A9LA.5 |
| Q7YTS2_CAEEL | 6239.C12D8.15 |
| Q7YWQ9_CAEEL | 6239.Y38H6C.23 |
| Q7YZG5_CAEEL | 6239.Y48G9A.9b |
| Q86D26_CAEEL | 6239.B0391.12 |
| Q86DC8_CAEEL | 6239.T13A10.14 |
| Q86FN2_CAEEL | 6239.H18N23.1 |
| Q86FN2_CAEEL | 6239.Y52E8A.6 |
| Q86GC0_CAEEL | 6239.T19C4.8 |
| Q86MI8_CAEEL | 6239.Y22D7AR.14 |
| Q86S74_CAEEL | 6239.Y5H2A.3 |
| Q8IU06_CAEEL | 6239.Y48G1C.11 |
| Q8IU10_CAEEL | 6239.Y40A1A.1 |
| Q8IU11_CAEEL | 6239.Y40A1A.2 |
| Q8MPS0_CAEEL | 6239.ZK1067.8 |
| Q8MXU0_CAEEL | 6239.Y4C6A.4 |
| Q8MYN7_CAEEL | 6239.Y39B6A.22 |
| Q8MYN9_CAEEL | 6239.Y39B6A.18 |
| Q8WQE9_CAEEL | 6239.F55F1.3 |
| Q94256_CAEEL | 6239.K04A8.9 |
| Q95X26_CAEEL | 6239.Y57G7A.11 |
| Q95X36_CAEEL | 6239.C35E7.11 |
| Q95XB7_CAEEL | 6239.Y82E9BL.8 |
| Q95XD9_CAEEL | 6239.Y73B3B.3 |
| Q95XF2_CAEEL | 6239.Y73B3A.14 |
| Q95XF5_CAEEL | 6239.Y73B3A.7 |
| Q95XH3_CAEEL | 6239.Y69A2AR.27 |

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|---|---|
| Q95XI1_CAEEL | 6239.Y69A2AR.25 |
| Q95XL1_CAEEL | 6239.Y54F10BM.3 |
| Q95XU0_CAEEL | 6239.Y67D8B.1 |
| Q95XW1_CAEEL | 6239.Y55F3C.5 |
| Q95ZM7_CAEEL | 6239.C16C8.19 |
| Q95ZN7_CAEEL | 6239.T17E9.2b |
| Q95ZU0_CAEEL | 6239.F40B5.3 |
| Q95ZZ9_CAEEL | 6239.B0244.11 |
| Q960A6_CAEEL | 6239.W02D7.10 |
| Q965G3_CAEEL | 6239.Y73C8C.11 |
| Q965N6_CAEEL | 6239.Y46E12BL.4 |
| Q965P5_CAEEL | 6239.Y22D7AL.12 |
| Q965R1_CAEEL | 6239.Y97E10B.1 |
| Q965R6_CAEEL | 6239.Y97E10B.2 |
| Q965S1_CAEEL | 6239.Y97E10AL.1 |
| Q966A2_CAEEL | 6239.Y5H2A.2 |
| Q966B1_CAEEL | 6239.Y50D4B.4 |
| Q966B2_CAEEL | 6239.Y46H3D.1 |
| Q966B6_CAEEL | 6239.Y46H3D.8 |
| Q966E2_CAEEL | 6239.Y119D3A.1 |
| Q966E4_CAEEL | 6239.Y119D3A.3 |
| Q966F1_CAEEL | 6239.T24H5.1 |
| Q966H0_CAEEL | 6239.R05G9.1 |
| Q966I4_CAEEL | 6239.M02H5.10 |
| Q9BL23_CAEEL | 6239.Y92C3A.3 |
| Q9BL53_CAEEL | 6239.Y71G12A.3 |
| Q9BLB2_CAEEL | 6239.Y119D3B.3 |
| Q9BLC1_CAEEL | 6239.F12E12.3 |
| Q9BLC2_CAEEL | 6239.F12E12.6 |
| Q9BPM9_CAEEL | 6239.Y32G9A.4 |
| Q9GNI8_CAEEL | 6239.Y116F11B.2 |
| Q9GPA4_CAEEL | 6239.F48E3.9 |
| Q9GRV0_CAEEL | 6239.Y94A7B.7 |
| Q9GRV4_CAEEL | 6239.Y71A12B.6 |

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|---|---|
| Q9GRV7_CAEEL | 6239.Y116F11B.5 |
| Q9GRY4_CAEEL | 6239.Y59A8B.19 |
| Q9GRZ8_CAEEL | 6239.Y59A8A.4 |
| Q9GUE9_CAEEL | 6239.Y73B6BL.27 |
| Q9GUG2_CAEEL | 6239.Y73B6BL.14 |
| Q9GUG4_CAEEL | 6239.Y73B6BL.13 |
| Q9GUM6_CAEEL | 6239.Y73E7A.5 |
| Q9GUN2_CAEEL | 6239.Y67D8C.1 |
| Q9GUN4_CAEEL | 6239.Y67D8C.2 |
| Q9GYH3_CAEEL | 6239.K06C4.9 |
| Q9GZD8_CAEEL | 6239.F46A8.8 |
| Q9N2T6_CAEEL | 6239.Y9C9A.11 |
| Q9N2W4_CAEEL | 6239.Y94H6A.2 |
| Q9N322_CAEEL | 6239.Y59H11AR.3 |
| Q9N331_CAEEL | 6239.Y59E1B.1 |
| Q9N332_CAEEL | 6239.Y59E1B.2 |
| Q9N398_CAEEL | 6239.Y54G2A.28 |
| Q9N3G6_CAEEL | 6239.Y53G8AM.2 |
| Q9N3H5_CAEEL | 6239.Y52E8A.1 |
| Q9N3H9_CAEEL | 6239.Y52E8A.3 |
| Q9N3I3_CAEEL | 6239.Y51H7C.2 |
| Q9N3J9_CAEEL | 6239.Y51H7BR.4 |
| Q9N430_CAEEL | 6239.Y38C1AA.6 |
| Q9N449_CAEEL | 6239.Y37E11AL.4 |
| Q9N471_CAEEL | 6239.Y23H5B.1 |
| Q9N473_CAEEL | 6239.Y23H5B.2 |
| Q9N480_CAEEL | 6239.Y17G9A.7 |
| Q9N4F6_CAEEL | 6239.Y71H2B.8 |
| Q9N4Q0_CAEEL | 6239.Y69F12A.1 |
| Q9N4U4_CAEEL | 6239.Y49F6B.3 |
| Q9N4V1_CAEEL | 6239.Y48D7A.1 |
| Q9N4V7_CAEEL | 6239.Y47D9A.4 |
| Q9N527_CAEEL | 6239.Y38C1BA.3 |
| Q9N564_CAEEL | 6239.Y23B4A.1 |

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|---|---|
| Q9N5A9_CAEEL | 6239.W08E12.9 |
| Q9N5F9_CAEEL | 6239.R05D8.2 |
| Q9N5I6_CAEEL | 6239.K09D9.7 |
| Q9N5M0_CAEEL | 6239.H20J04.3 |
| Q9N5N5_CAEEL | 6239.H10D18.3 |
| Q9N5N6_CAEEL | 6239.H09I01.1 |
| Q9N5T8_CAEEL | 6239.F45D11.8 |
| Q9N5U6_CAEEL | 6239.F35F11.2 |
| Q9N5W9_CAEEL | 6239.C39B5.3 |
| Q9N5X2_CAEEL | 6239.C39B5.7 |
| Q9N5Z2_CAEEL | 6239.C09E7.3 |
| Q9NA23_CAEEL | 6239.ZK512.9 |
| Q9NA43_CAEEL | 6239.Y73F8A.35 |
| Q9NA96_CAEEL | 6239.Y53F4B.37 |
| Q9NAD4_CAEEL | 6239.Y51H4A.19 |
| Q9NAD7_CAEEL | 6239.Y51H4A.16 |
| Q9NAF0_CAEEL | 6239.Y50E8A.15 |
| Q9NAF2_CAEEL | 6239.Y50E8A.6 |
| Q9NAF3_CAEEL | 6239.Y50E8A.5 |
| Q9NAI0_CAEEL | 6239.Y41E3.14 |
| Q9NAK9_CAEEL | 6239.Y38E10A.1 |
| Q9NAM1_CAEEL | 6239.Y105C5B.20 |
| Q9NAM5_CAEEL | 6239.Y105C5B.16 |
| Q9NAM9_CAEEL | 6239.Y105C5B.3 |
| Q9NAN5_CAEEL | 6239.T01E8.7 |
| Q9NEK7_CAEEL | 6239.Y116F11B.1 |
| Q9NEU6_CAEEL | 6239.Y39B6A.31 |
| Q9NEZ7_CAEEL | 6239.Y105E8A.5 |
| Q9NF23_CAEEL | 6239.Y105E8A.1 |
| Q9TXK5_CAEEL | 6239.K04F1.16 |
| Q9U1Q9_CAEEL | 6239.Y80D3A.8 |
| Q9U1R5_CAEEL | 6239.Y80D3A.5 |
| Q9U1U9_CAEEL | 6239.Y67A10A.5 |
| Q9U1V2_CAEEL | 6239.Y67A10A.7 |

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|---|---|
| Q9U1Z7_CAEEL | 6239.Y60A3A.6 |
| Q9U212_CAEEL | 6239.Y57A10A.22 |
| Q9U259_CAEEL | 6239.Y51H4A.23 |
| Q9U276_CAEEL | 6239.Y50E8A.7 |
| Q9U2E5_CAEEL | 6239.Y46G5A.23 |
| Q9U2L1_CAEEL | 6239.Y39C12A.9 |
| Q9U2L3_CAEEL | 6239.Y39C12A.7 |
| Q9U2L5_CAEEL | 6239.Y39C12A.6 |
| Q9U312_CAEEL | 6239.Y105C5B.10 |
| Q9U314_CAEEL | 6239.Y105C5B.7 |
| Q9U318_CAEEL | 6239.Y105C5B.1 |
| Q9U321_CAEEL | 6239.Y105C5A.17 |
| Q9U324_CAEEL | 6239.Y105C5A.11 |
| Q9U374_CAEEL | 6239.T10B10.9.3 |
| Q9U3G9_CAEEL | 6239.F33A8.7 |
| Q9U3M2_CAEEL | 6239.C43F9.8 |
| Q9U5B2_CAEEL | 6239.F43C11.11 |
| Q9XVD8_CAEEL | 6239.C14A6.8 |
| Q9XVE3_CAEEL | 6239.C14A6.5 |
| Q9XVE4_CAEEL | 6239.C14A6.6 |
| Q9XVF5_CAEEL | 6239.B0250.6 |
| Q9XXA4_CAEEL | 6239.4R79.2 |
| Q9XXA9_CAEEL | 6239.Y94A7B.5 |
| Q9XXC5_CAEEL | 6239.Y51B9A.7 |
| RHOA_CAEEL | 6239.Y51H4A.3.1 |
| ROM2_CAEEL | 6239.C48B4.2 |
| YPL1_CAEEL | 6239.F37A8.5 |
| YRN6_CAEEL | 6239.R07B1.6 |
| YX0F_CAEEL | 6239.C03B1.15 |
| | 6239.Y59H11AR.1 |
| | 6239.Y71G10AR.3 |

**Supplementary Table 3** – Predicted PKA substrates in *D. melanogaster*. There are no PKA sites identified experimentally.

| UniProt (SRS) | Exp. PPI | STRING PPI | String PKA | Exp. PKA | GPS (PKA) |
|---|---|---|---|---|---|
| CDC37_DROME | Yes | | | Pka-C1 | S56 |
| CID_DROME | Yes | 7227.CG2125-PA | Pka-C1;PKA-C3 | Pka-C1 | S130;S218;S249;S250;S838;S855;S856;S891;S892;S962;T1006;S1174 |
| CNN_DROME | Yes | 7227.CG4832-PC | Pka-C1 | Pka-C1 | S7;S8;S77;S199;S382;S507;S818;S819;S853;S114 |
| CUT_DROME | Yes | 7227.CG11387-PA | Pka-C1 | Pka-C1 | T44;S1006;S1200;S1299;S1700;S1705;T1706;S1820;T1821;S2113 |
| DECA_DROME | Yes | 7227.CG9885-PB | Pka-C1;PKA-C3 | Pka-C1 | S56;S96;S158;S340;T478;S491 |
| HH_DROME | Yes | 7227.CG4637-PA | Pka-C1;PKA-C3 | Pka-C1 | S80 |
| Q7KR54_DROME | Yes | 7227.CG3644-PB | PKA-C3 | PKA-C3 | S47 |
| Q9V4K0_DROME | Yes | 7227.CG1708-PA | PKA-C3 | PKA-C3 | S265;S292;S592;S599;S955;S1120 |
| Q9VG38_DROME | Yes | 7227.CG6054-PA | Pka-C1 | Pka-C1 | S239 |
| Q9VUL2_DROME | Yes | 7227.CG13458-PA | PKA-C3 | PKA-C3 | S308;S335 |
| SGG_DROME | Yes | 7227.CG2621-PD | Pka-C1;PKA-C3 | Pka-C1 | S65;S135;S401;T410;T411;S492 |
| SMO_DROME | Yes | 7227.CG11561-PA | Pka-C1;PKA-C3 | Pka-C1 | S667;S680;S687;S740;S741;T785;S885;S890;S954;T993 |
| WNTG_DROME | Yes | 7227.CG4889-PA | Pka-C1;PKA-C3 | Pka-C1 | |
| KAPR1_DROME | Yes | 7227.CG3263-PI | Pka-C1;PKA-C3 | Pka-C1 | |
| Y678_DROME | Yes | 7227.CG2678-PA | PKA-C3 | PKA-C3 | |
| PANG_DROME | Yes | 7227.CG17964-PA | Pka-C1 | Pka-C1 | |
| VEIN_DROME | | 7227.CG10491-PA | PKA-C3 | | S10;S95;S513 |
| Q9V4V6_DROME | | 7227.CG8643-PA | PKA-C3 | | S100;S345;S848 |
| DCO_DROME | | 7227.CG2048-PB | Pka-C1;PKA-C3 | | S101;S234;S408 |
| RABEP_DROME | | 7227.CG8432-PA | PKA-C3 | | S103 |
| KCNAE_DROME | | 7227.CG10952-PA | Pka-C1 | | S1039;S1041 |
| LINES_DROME | | 7227.CG11770-PA | PKA-C3 | | S106;S659 |
| KELC_DROME | | 7227.CG7210-PA | Pka-C1 | | S108;T488;S534;S535;S583;S912;S976;S1101;S1105;S1183;S1190;S1191;S1205;S1366 |
| Q9W318_DROME | | 7227.CG1343-PA | PKA-C3 | | S109;S462 |
| 18C_DROME | | 7227.CG3354-PA | PKA-C3 | | S114 |
| CCNE_DROME | | 7227.CG3938-PE | Pka-C2 | | S114;S349;S491 |
| RS4_DROME | | 7227.CG11276-PB | Pka-C2 | | S115 |

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|---|---|---|---|
| PRD_DROME | 7227.CG6716-PB | PKA-C3 | S117 |
| Q24062_DROME | 7227.CG7811-PA | PKA-C3 | S120 |
| Q9V4B1_DROME | 7227.CG1651-PA | PKA-C3 | S1264;S1338 |
| CLAT_DROME | 7227.CG12345-PA | Pka-C1;PKA-C3 | S127;S218;S550;S628 |
| Q9VYG9_DROME | 7227.CG4346-PA | Pka-C1;PKA-C3 | S129;S210 |
| Q9VTB3_DROME | 7227.CG11811-PA | Pka-C1;PKA-C3 | S13;S170 |
| Q9V7R5_DROME | 7227.CG5072-PA | Pka-C1;CG12069 | S13;S75 |
| Q7YU84_DROME | 7227.CG7803-PA | PKA-C3 | S134 |
| LCK_DROME | 7227.CG13480-PA | Pka-C2 | S134 |
| ARM_DROME | 7227.CG11579-PE | Pka-C1;PKA-C3 | S134;S211;S397;S560;S561;S607;S688 |
| KPC4_DROME | 7227.CG10524-PA | PKA-C3 | S14;S38;S80;S92;S126 |
| Q24477_DROME | 7227.CG31240-PA | PKA-C3 | S147 |
| Q9VKE2_DROME | 7227.CG16963-PA | PKA-C3 | S147;S194;S311;S462;S469 |
| Q9VTD3_DROME | 7227.CG12296-PA | Pka-C2 | S149;S360;S361;S388;S407;S408;S450 |
| SEM1A_DROME | 7227.CG18405-PA | Pka-C2 | S159;S582;S779 |
| TTKA_DROME | 7227.CG1856-PA | Pka-C2 | S161;S203;S264 |
| Q9VQD5_DROME | 7227.CG3227-PA | Pka-C2;PKA-C3 | S17;S365;S366 |
| AMOS_DROME | 7227.CG10393-PA | Pka-C2 | S175 |
| Q9W2C1_DROME | 7227.CG13493-PA | PKA-C3 | S177;S185 |
| Q6AWI5_DROME | 7227.CG17228-PA | Pka-C2 | S179;S203;S348;S349;S376;S390 |
| MS57C_DROME | 7227.CG4986-PA | PKA-C3 | S18 |
| MEF2_DROME | 7227.CG1429-PD | PKA-C3 | S180;S181;S275;S458 |
| Q9W2X0_DROME | 7227.CG32688-PA | PKA-C3 | S184;S197 |
| SCA_DROME | 7227.CG17579-PB | Pka-C2 | S186;S218;S229;S461 |
| GSB_DROME | 7227.CG3388-PA | Pka-C1;PKA-C3 | S188;S414 |
| FBP1_DROME | 7227.CG17285-PA | PKA-C3 | S195;S603 |
| TRX_DROME | 7227.CG8651-PD | Pka-C1 | S20;S171;S234;S297;S523;T623;S799;S902;S986;S1153;S2099;S2125;S2154;S2186;S3236;S3355;T3569 |
| Q9VP79_DROME | 7227.CG10573-PA | Pka-C2;PKA-C3 | S201;S295;S297;S309;S358;S429;S440;S459;S647;S952 |
| DPN_DROME | 7227.CG8704-PA | Pka-C2 | S202 |
| TRP_DROME | 7227.CG7875-PA | PKA-C3 | S206;S603;S717;S726;T849;T864;S876;S881;S961 |
| Q541C1_DROME | 7227.CG3258-PA | Pka-C2 | S208 |

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|---|---|---|---|
| Q9VXX1_DROME | 7227.CG15031-PA | PKA-C3 | S22 |
| GIANT_DROME | 7227.CG7952-PB | PKA-C3 | S220;S318;S322 |
| GAP1_DROME | 7227.CG6721-PA | PKA-C3 | S222;T324;S449;S705 |
| INSR_DROME | 7227.CG18402-PA | PKA-C3 | S224;S571;S681;S838;S1020;S1287;S1894;S2038; S2093;S2095 |
| PDE4A_DROME | 7227.CG32498-PB | Pka-C1;PKA-C3 | S23;S82;S176;S473;T519;S557;S577;S578 |
| CREBB_DROME | 7227.CG6103-PE | Pka-C1 | S230 |
| IF4E_DROME | 7227.CG4035-PG | PKA-C3 | S236 |
| BTKL_DROME | 7227.CG8049-PD | PKA-C3 | S24;S25;S439 |
| ELAV_DROME | 7227.CG4262-PA | Pka-C2 | S241 |
| CAD_DROME | 7227.CG1759-PB | PKA-C3 | S246;S304 |
| UNC4_DROME | 7227.CG6269-PA | Pka-C2 | S25;S86 |
| CP6D5_DROME | 7227.CG3050-PA | Pka-C2 | S250 |
| MK14B_DROME | 7227.CG7393-PA | CG12069 | S254 |
| Q9VRB5_DROME | 7227.CG1338-PB | Pka-C2 | S26;T172;S235 |
| OPT1_DROME | 7227.CG2913-PA | Pka-C1 | S262 |
| TSH_DROME | 7227.CG1374-PA | Pka-C1 | S27;S416;S580;S697;S755 |
| HID_DROME | 7227.CG5123-PA | Pka-C1 | S275;T284;S332;S333 |
| CDK5_DROME | 7227.CG8203-PA | CG12069 | S276 |
| Q9VS55_DROME | 7227.CG8591-PA | PKA-C3 | S281 |
| TIN_DROME | 7227.CG7895-PA | PKA-C3 | S282 |
| Q24216_DROME | 7227.CG3319-PA | CG12069 | S285 |
| WHITE_DROME | 7227.CG2759-PA | Pka-C2 | S287 |
| VPS54_DROME | 7227.CG3766-PA | Pka-C2 | S29;S520;S600 |
| JNK_DROME | 7227.CG5680-PB | CG12069 | S291;S310 |
| ATO_DROME | 7227.CG7508-PA | Pka-C2 | S292 |
| CREBA_DROME | 7227.CG7450-PB | Pka-C1 | S299;S373;S374 |
| Q9VND0_DROME | 7227.CG10390-PA | PKA-C3 | S30;S554;S555 |
| HIRA_DROME | 7227.CG12153-PA | Pka-C1;PKA-C3 | S305;S519 |
| NEUR_DROME | 7227.CG11988-PA | Pka-C2 | S307;S602 |
| KRUP_DROME | 7227.CG3340-PA | Pka-C2 | S33;S163 |
| SCR_DROME | 7227.CG1030-PA | Pka-C1 | S330 |
| Q9V9Z0_DROME | 7227.CG1750-PA | PKA-C3 | S333 |
| Q9V8C7_DROME | 7227.CG5124-PA | PKA-C3 | S337;S466 |

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|---|---|---|---|
| Q9VPX0_DROME | 7227.CG4715-PA | PKA-C3 | S339 |
| NSF1_DROME | 7227.CG1618-PA | PKA-C3 | S339 |
| PER_DROME | 7227.CG2647-PA | PKA-C3 | S34;S1102;S1103 |
| Q9VMN3_DROME | 7227.CG7236-PA | Pka-C1;CG12069 | S346 |
| GSC_DROME | 7227.CG2851-PA | PKA-C3 | S35 |
| SYN_DROME | 7227.CG3985-PE | PKA-C3 | S352;S457;S507;S510;S533;S594;S643;S853;S903;S963;S1013 |
| CEBP_DROME | 7227.CG4354-PA | Pka-C1 | S355 |
| Q9VRD2_DROME | 7227.CG11666-PA | Pka-C2 | S36 |
| Q9W0K2_DROME | 7227.CG9122-PA | PKA-C3 | S36;S52;S163;S183;S509 |
| Q9VP10_DROME | 7227.CG7169-PA | PKA-C3 | S362;S832;S940 |
| ABRU_DROME | 7227.CG4807-PA | Pka-C2 | S367;S533;S587 |
| 2ABA_DROME | 7227.CG6235-PF | PKA-C3 | S37 |
| Q8IQB2_DROME | 7227.CG32025-PA | Pka-C1;PKA-C3 | S37;S194;S289;T294;S448;S449;S491;S526;S543;S636;S905;S908 |
| BTD_DROME | 7227.CG12653-PA | Pka-C2 | S373 |
| SEM2A_DROME | 7227.CG4700-PA | Pka-C2 | S377 |
| AL_DROME | 7227.CG3935-PA | Pka-C2;PKA-C3 | S378;S379 |
| SY65_DROME | 7227.CG3139-PA | PKA-C3 | S382 |
| Q9VPH0_DROME | 7227.CG16993-PA | Pka-C2 | S4;S76;T141;S783 |
| PTC_DROME | 7227.CG2411-PA | Pka-C1;PKA-C3 | S401;T589;S1147;S1201 |
| Q541G1_DROME | 7227.CG4216-PA | Pka-C1;PKA-C3 | S404 |
| DRI_DROME | 7227.CG5403-PB | Pka-C2;PKA-C3 | S408;S428;S548;S742 |
| TWINE_DROME | 7227.CG4965-PA | PKA-C3 | S41 |
| Q53YH4_DROME | 7227.CG7902-PA | PKA-C3 | S41;S42;S61;S63;T144;S178 |
| TOP2_DROME | 7227.CG10223-PA | PKA-C3 | S413;S1364 |
| LOK_DROME | 7227.CG10895-PA | Pka-C1;CG12069 | S431 |
| SERR_DROME | 7227.CG6127-PA | PKA-C3 | S432;S433;S831;S1349;T1365 |
| FSH_DROME | 7227.CG2252-PB | PKA-C3 | S432;S675;S694;S961;S985;S1026;S1118;S1716;S1791 |
| EXPA_DROME | 7227.CG4114-PA | PKA-C3 | S442;S501;S542;T755;S1116;S1381 |
| Q4QQA2_DROME | 7227.CG6551-PA | PKA-C3 | S444;T467 |
| Q9VQV9_DROME | 7227.CG3399-PD | Pka-C1 | S46;S372;S558;S735;S763;S1185 |
| PAIN_DROME | 7227.CG15860-PA | PKA-C3 | S46;S383;S800;S826 |

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|---|---|---|---|
| DA_DROME | 7227.CG5102-PA | Pka-C2 | S467 |
| COLL_DROME | 7227.CG10197-PA | Pka-C2 | S468 |
| P91626_DROME | 7227.CG6570-PA | PKA-C3 | S47;S170;S171;S254;S348 |
| CYA1_DROME | 7227.CG9533-PA | Pka-C1;PKA-C3 | S476;S648;S814 |
| MERH_DROME | 7227.CG14228-PA | PKA-C3 | S477 |
| HFW1_DROME | 7227.CG3095-PA | Pka-C1 | S478 |
| WIF1_DROME | 7227.CG3135-PA | PKA-C3 | S48 |
| Q9VHF6_DROME | 7227.CG8866-PA | Pka-C1;CG12069 | S491 |
| Q9VT91_DROME | 7227.CG6577-PA | PKA-C3 | S51;S395;S497 |
| FAT_DROME | 7227.CG3352-PA | Pka-C1;PKA-C3 | S51;S52;S53;S803;S844;S1135;S1582;S1691;S1692;S2148;S4840;S4957 |
| KAPR2_DROME | 7227.CG15862-PB | Pka-C1;PKA-C3 | S51;S84;S323 |
| CDC2_DROME | 7227.CG5363-PA | CG12069 | S53 |
| HMIN_DROME | 7227.CG17835-PA | PKA-C3 | S530 |
| Q9VYU8_DROME | 7227.CG9369-PA | Pka-C1;PKA-C3 | S536;S675 |
| Q86BM5_DROME | 7227.CG13388-PD | Pka-C1 | S551 |
| SCNA_DROME | 7227.CG9907-PA | PKA-C3 | S553;S570;S641;S650;S684;S2123 |
| KCNAS_DROME | 7227.CG12348-PE | Pka-C1;PKA-C3 | S56;S520 |
| CDC2C_DROME | 7227.CG10498-PA | Pka-C1;CG12069 | S57 |
| BRO_DROME | 7227.CG7960-PA | PKA-C3 | S58 |
| Q9VR07_DROME | 7227.CG15444-PC | Pka-C1;PKA-C3 | S58;S90;S112 |
| HTS_DROME | 7227.CG9325-PA | Pka-C1 | S603;S1075 |
| 1433Z_DROME | 7227.CG17870-PD | PKA-C3 | S61 |
| NBEA_DROME | 7227.CG6775-PA | Pka-C1 | S61;S437;S438;S591;S669;S1688;S1737;S2293;S2505;S2909;S3400 |
| Q8IP90_DROME | 7227.CG31762-PB | PKA-C3 | S613;S764 |
| GBRAL_DROME | 7227.CG7446-PA | PKA-C3 | S622 |
| Q540V1_DROME | 7227.CG9193-PA | PKA-C3 | S67 |
| Q9W2G6_DROME | 7227.CG15667-PB | PKA-C3 | S675;S766;S767;T1115;S1265 |
| TRUNK_DROME | 7227.CG5619-PA | PKA-C3 | S69;S108;T183 |
| KCNAB_DROME | 7227.CG1066-PB | PKA-C3 | S690;S731;S796;S797;S817 |
| DMDA_DROME | 7227.CG31175-PA | PKA-C3 | S710;S773;S823;S1025;S1278;S1637;S1817;S1819;S1866;S2074;S2836;T2859;S2919 |
| Q9VHP0_DROME | 7227.CG9748-PA | PKA-C3 | S725 |

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|---|---|---|---|
| Q4V702_DROME | 7227.CG3796-PA | Pka-C2 | S75;S180 |
| Q9V9A3_DROME | 7227.CG3427-PA | PKA-C3 | S76;S187 |
| Q59DU7_DROME | 7227.CG10693-PI | Pka-C1;PKA-C3 | S776;S991 |
| Q9V7M2_DROME | 7227.CG7760-PA | Pka-C2 | S78;S80;S90 |
| CAC1A_DROME | 7227.CG1522-PE | PKA-C3 | S796;S1519 |
| GCH1_DROME | 7227.CG9441-PA | Pka-C2 | S8;S37 |
| Q94536_DROME | 7227.CG1772-PA | Pka-C2 | S94;S168;S169;S213;S214 |
| Q9VZW3_DROME | 7227.CG2075-PA | PKA-C3 | S95;S195;S393 |
| Q7KS77_DROME | 7227.CG6545-PA | PKA-C3 | S98;S99;S150;S271;S272;S305;S356 |
| Q8IRN9_DROME | 7227.CG10944-PC | PKA-C3 | S99;S142;S224;S236;S238;S245 |
| PNT2_DROME | 7227.CG17077-PB | PKA-C3 | T104 |
| JDP_DROME | 7227.CG2239-PA | PKA-C3 | T107;S164 |
| NOS_DROME | 7227.CG6713-PA | Pka-C1;PKA-C3 | T21;S117;T131;S191;S286;S287;S1115 |
| Q8T4D4_DROME | 7227.CG9222-PA | Pka-C1;CG12069 | T225 |
| Q59DP1_DROME | 7227.CG18069-PD | Pka-C1;PKA-C3;CG12069 | T262;S315;S515 |
| Q29R37_DROME | 7227.CG9262-PA | PKA-C3 | T38 |
| Q4V4A7_DROME | 7227.CG31421-PA | Pka-C1;CG12069 | T40;S269;S370 |
| WEE1_DROME | 7227.CG4488-PA | PKA-C3 | T507 |
| Q9VZK2_DROME | 7227.CG1130-PA | Pka-C2 | T51;S350;S369 |
| Q9VRF2_DROME | 7227.CG1501-PA | Pka-C1;PKA-C3 | T52;S68;T79;S606;S607;S730;S1212;S1213 |
| DYN_DROME | 7227.CG18102-PD | Pka-C1;PKA-C3 | T581 |
| Q59E34_DROME | 7227.CG8103-PB | Pka-C2 | T62;S117;S223;S226;S257;S267;S285;S1182;S1419;S1692 |
| Q9VL05_DROME | 7227.CG18144-PA | Pka-C1;PKA-C3 | T71;S73 |
| 5HT2A_DROME | 7227.CG16720-PA | Pka-C1;PKA-C3 | T740 |
| Q3YMV6_DROME | 7227.CG9553-PA | Pka-C1 | |
| RAS1_DROME | 7227.CG9375-PA | Pka-C1;PKA-C3 | |
| CALM_DROME | 7227.CG8472-PA | Pka-C1;PKA-C3 | |
| Q4V720_DROME | 7227.CG8246-PA | Pka-C2 | |
| ANA_DROME | 7227.CG8084-PA | Pka-C2 | |
| SRC64_DROME | 7227.CG7524-PF | Pka-C1 | |
| Q6AWM0_DROME | 7227.CG7503-PA | Pka-C2 | |
| MY31D_DROME | 7227.CG7438-PA | PKA-C3 | |
| Q9VGU6_DROME | 7227.CG6612-PB | PKA-C3 | |

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|---|---|---|
| KPC2_DROME | 7227.CG6518-PA | PKA-C3 |
| Q8INY7_DROME | 7227.CG6433-PB | PKA-C3 |
| RS2_DROME | 7227.CG5920-PA | Pka-C2 |
| FAS3_DROME | 7227.CG5803-PA | Pka-C2 |
| Q9V413_DROME | 7227.CG5671-PD | PKA-C3 |
| TOLL_DROME | 7227.CG5490-PB | Pka-C2 |
| OBA5_DROME | 7227.CG5430-PA | PKA-C3 |
| BOULE_DROME | 7227.CG4760-PD | PKA-C3 |
| Q9VPW3_DROME | 7227.CG4629-PB | Pka-C1;CG12069 |
| O97102_DROME | 7227.CG4494-PA | Pka-C2 |
| Q24044_DROME | 7227.CG4274-PA | PKA-C3 |
| Q7KR61_DROME | 7227.CG4088-PA | PKA-C3 |
| AST3_DROME | 7227.CG3839-PA | Pka-C2 |
| Q4V705_DROME | 7227.CG3827-PA | Pka-C2 |
| FAS2_DROME | 7227.CG3665-PA | Pka-C2 |
| MBL_DROME | 7227.CG33197-PB | PKA-C3 |
| GDL_DROME | 7227.CG33088-PA | PKA-C3 |
| DHSB_DROME | 7227.CG3283-PA | PKA-C3 |
| Q541F9_DROME | 7227.CG32443-PA | Pka-C2 |
| Q95RV5_DROME | 7227.CG30499-PA | Pka-C1;PKA-C3 |
| Q5BIB4_DROME | 7227.CG2988-PA | Pka-C2 |
| LBM_DROME | 7227.CG2374-PA | PKA-C3 |
| JRA_DROME | 7227.CG2275-PA | Pka-C1 |
| Q4V6Y3_DROME | 7227.CG2047-PA | Pka-C2 |
| Q2V8Y4_DROME | 7227.CG1844-PA | PKA-C3 |
| IMDH_DROME | 7227.CG1799-PA | PKA-C3 |
| MS87F_DROME | 7227.CG17956-PA | PKA-C3 |
| Q9V5B0_DROME | 7227.CG1776-PA | Pka-C1;CG12069 |
| Q53YF8_DROME | 7227.CG17725-PA | PKA-C3 |
| DSOR1_DROME | 7227.CG15793-PA | Pka-C1;CG12069 |
| 5HT2B_DROME | 7227.CG15113-PA | Pka-C1;PKA-C3 |
| Q7KRT5_DROME | 7227.CG1447-PC | Pka-C2 |
| Q9VE58_DROME | 7227.CG14305-PC | CG12069 |
| Q4V6W1_DROME | 7227.CG1378-PA | Pka-C2 |

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|---|---|---|
| Q9V5F9_DROME | 7227.CG1362-PA | CG12069 |
| O16868_DROME | 7227.CG13396-PA | Pka-C1 |
| VHL_DROME | 7227.CG13221-PA | PKA-C3 |
| LAB_DROME | 7227.CG1264-PA | PKA-C3 |
| Q7PL59_DROME | 7227.CG12559-PB | CG12069 |
| G6PD_DROME | 7227.CG12529-PA | PKA-C3 |
| SAN_DROME | 7227.CG12352-PA | PKA-C3 |
| Q9V6L4_DROME | 7227.CG12251-PA | Pka-C1 |
| GCM_DROME | 7227.CG12245-PA | Pka-C2 |
| AMN_DROME | 7227.CG11937-PA | Pka-C1;PKA-C3 |
| 7UP2_DROME | 7227.CG11502-PA | Pka-C2 |
| Q9V380_DROME | 7227.CG11482-PA | PKA-C3 |
| O46308_DROME | 7227.CG11420-PA | Pka-C1;CG12069 |
| Q9V472_DROME | 7227.CG11354-PA | Pka-C1 |
| Q960Y0_DROME | 7227.CG1133-PA | Pka-C2 |
| CORT_DROME | 7227.CG11330-PA | PKA-C3 |
| Q9VP40_DROME | 7227.CG11308-PA | PKA-C3 |
| Q9VRC6_DROME | 7227.CG11230-PA | Pka-C2 |
| SO_DROME | 7227.CG11121-PA | PKA-C3 |
| Q9V3E7_DROME | 7227.CG1101-PA | PKA-C3 |
| Q9V3S4_DROME | 7227.CG10751-PA | PKA-C3 |
| EMC_DROME | 7227.CG1007-PA | Pka-C2 |

**Supplementary Table 4** – Predicted PKA substrates *H. sapiens*. All experimentally verified PKA phosphorylation sites were marked in red.

| UniProt (SRS) | Phospho | Exp. PPI | STRING PPI | String PKA | Exp. PKA | GPS (PKA) |
|---|---|---|---|---|---|---|
| *Known PKA substrates in human* | | | | | | |
| PLM_HUMAN | O00168 | Yes | 9606.ENSP00000343314 | PKACa | PKACa | S88 |
| STK6_HUMAN | O14965 | Yes | 9606.ENSP00000321591 | PKACa | PKACa | **T288**;S342 |
| RGS14_HUMAN | O43566 | Yes | 9606.ENSP00000307477 | PKACa | PKACa | **S260**;S288;T543 |
| Q5VX33_HUMAN | O95477 | Yes | 9606.ENSP00000297693 | PKACa | PKACa | S139;**S1042**;S1146;S1343;S1682;**S2054** |
| HAND1_HUMAN | O96004 | Yes | 9606.ENSP00000231121 | PKACa | PKACa | **S98**;**T107**;**S109** |
| Q6FG41_HUMAN | P01100 | Yes | 9606.ENSP00000306245 | PKACa | PKACa | S18;**S362** |
| Q5TFI3_HUMAN | P03372 | Yes | 9606.ENSP00000206249 | PKACa | PKACa | **S236**;S305;S518 |
| VTNC_HUMAN | P04004 | Yes | 9606.ENSP00000226218 | PKACa | PKACa | **S397** |
| RAF1_HUMAN | P04049 | Yes | 9606.ENSP00000251849 | PKACa;PKACg | PKACa | **S43**;S220;S257;**S259**;S285;**S621** |
| Q3KQR8_HUMAN | P05114 | Yes | 9606.ENSP00000340927 | PKACa | PKACa | **S7**;**S21** |
| TY3H_HUMAN | P07101 | | 9606.ENSP00000325831 | PKACa | | **S71**;S183;S202;S349 |
| Q6GMT4_HUMAN | P07550 | | 9606.ENSP00000305372 | PKACb;PKACg | | S262;**S346** |
| Q5U0S4_HUMAN | P08034 | Yes | 9606.ENSP00000338947 | PKACa | PKACa | S225;**S233** |
| TAU_HUMAN | P10636 | | 9606.ENSP00000262410 | PKACa | | S170;S379;S399;**S530**;S725 |
| GTR2_HUMAN | P11168 | Yes | 9606.ENSP00000323568 | PKACa | PKACa | **S503** |
| SRC_HUMAN | P12931 | Yes | 9606.ENSP00000353950 | PKACa | PKACa | **S16**;S160 |
| Q14422_HUMAN | P13224 | Yes | | | PKACa | **S191** |
| Q2I102_HUMAN | P13569 | Yes | | | PKACa | S10;S422;S557;**S660**;S686;**S700**;S712;**S737**;**S768**;T787;T788;**S795**;**S813**;S902;S1456 |
| ITA4_HUMAN | P13612 | Yes | 9606.ENSP00000233573 | PKACa | PKACa | **S1027** |
| PLSL_HUMAN | P13796 | Yes | | | PKACa | **S5**;S537 |
| KAP2_HUMAN | P13861 | Yes | 9606.ENSP00000296446 | PKACa;PKACb;PKACg;PRKX;PRKY | PRKX | **S98**;S349 |
| SUIS_HUMAN | P14410 | Yes | 9606.ENSP00000264382 | PKACa | PKACa | S1079;S1080 |
| Q3MIN6_HUMAN | P15056 | Yes | 9606.ENSP00000288602 | PKACa | PKACa | S363;S365;S428;**S429**;S430;S446;S729 |

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|---|---|---|---|---|---|---|
| DESP_HUMAN | P15924 | | 9606.ENSP00000211979 | PKACa | | S165;S911;S1127;S1546;S1585;S1604;S1629;S1658;S1708;S1888;S2209;S2551;S2589;S2608;S2708;S2829;S2833;S2837;S2841;**S2849** |
| Q5U0J5_HUMAN | P16220 | | 9606.ENSP00000236996 | PKACa;PKACb;PKACg;PRKX | | **S133** |
| Q96CE4_HUMAN | P16949 | Yes | 9606.ENSP00000236291 | PKACa;PKACb;PKACg | PKACa | S16;**S63** |
| CAN2_HUMAN | P17655 | | 9606.ENSP00000295006 | PKACb;PKACg | | **S368** |
| Q3KPG8_HUMAN | P17752 | Yes | 9606.ENSP00000343550 | PKACa | PKACa | **S58** |
| Q6FGX2_HUMAN | P19429 | | 9606.ENSP00000341838 | PKACa | | **S23**;**S24**;S39 |
| WT1_HUMAN | P19544 | | 9606.ENSP00000331327 | PKACa | | S315;**S365**;**S393** |
| NFKB1_HUMAN | P19838 | Yes | 9606.ENSP00000226574 | PKACa | PKACa | **S337**;S937 |
| AT2B1_HUMAN | P20020 | Yes | 9606.ENSP00000352054 | PKACa | PKACa | S584;S1139;**S1178**;S1215 |
| Q4LE70_HUMAN | P25054 | Yes | 9606.ENSP00000257430 | PKACa | PKACa | S104;S248;T307;S378;S842;S927;S928;S962;S1070;S1074;S1278;S1391;S1467;S1612;S1756;S1863;S2027;S2028;S2131;S2209;S2241;S2242;S2292;S2306;S2309;S2351;S2352;S2376;S2398;S2422;S2423;S2571;S2795;S2796;S2820 |
| ARBK1_HUMAN | P25098 | Yes | | | PKACa | **S685** |
| Q5R352_HUMAN | P26678 | Yes | 9606.ENSP00000350132 | PKACa;PKACb;PKACg;PRKX;PRKY | PKACa | **S16** |
| NOS1_HUMAN | P29475 | Yes | 9606.ENSP00000337459 | PKACa | PKACa | S195;S418;S627;**S852**;S998 |
| MIP_HUMAN | P30301 | Yes | 9606.ENSP00000257979 | PKACa | PKACa | **S229** |
| Q6DHZ2_HUMAN | P31323 | | 9606.ENSP00000265717 | PKACa;PKACb;PKACg | | **S114**;S364 |
| Q5TCX5_HUMAN | P32927 | | 9606.ENSP00000262825 | PKACa;PKACb;PKACg | | S659 |
| C2TA_HUMAN | P33076 | Yes | 9606.ENSP00000316328 | PKACa | PKACa | S374;S375;S942;S943;S944 |
| Q5SXQ0_HUMAN | P35236 | Yes | | | PKACa | **S149**;S351 |

| Protein | Accession | | STRING ID | Kinases | Kinase | Sites |
|---|---|---|---|---|---|---|
| ADDA_HUMAN | P35611 | | 9606.ENSP00000264758 | PKACa | | **S59**;**S481** |
| ADDB_HUMAN | P35612 | Yes | 9606.ENSP00000264436 | PKACa | PKACa | S531 |
| RGP2_HUMAN | P47736 | Yes | | | PKACa | S439;S441;S498;**S499**;S515;S569;S570 |
| GRIA4_HUMAN | P48058 | Yes | 9606.ENSP00000282499 | PKACa | PKACa | **S862**;S892 |
| PSN1_HUMAN | P49768 | | 9606.ENSP00000326366 | PKACa;PKACb;PKACg;PRKX;PRKY | | **S310**;S324 |
| GSK3A_HUMAN | P49840 | Yes | 9606.ENSP00000222330 | PKACa | PKACa | **S21** |
| Q6FI27_HUMAN | P49841 | Yes | 9606.ENSP00000324806 | PKACa;PKACb;PKACg;PRKX;PRKY | PKACa | **S9** |
| VASP_HUMAN | P50552 | Yes | 9606.ENSP00000245932 | PKACa | PKACa | **S156**;**S238**;**T277**;S321 |
| Q96CV8_HUMAN | P52888 | Yes | 9606.ENSP00000304467 | PKACa | PKACa | S98 |
| ACLY_HUMAN | P53396 | Yes | 9606.ENSP00000253792 | PKACa | PKACa | **S455** |
| GMFB_HUMAN | P60983 | Yes | 9606.ENSP00000350757 | PKACa | PKACa | **T26** |
| Q5TZR4_HUMAN | P61224 | Yes | 9606.ENSP00000250559 | PKACa;PKACb;PKACg;PRKX;PRKY | PKACa | **S179** |
| Q32P43_HUMAN | P63104 | | 9606.ENSP00000297569 | PKACa | | **S58** |
| ACCN2_HUMAN | P78348 | Yes | 9606.ENSP00000228468 | PKACa | PKACa | S40;**S479** |
| PCTK1_HUMAN | Q00536 | Yes | 9606.ENSP00000352776 | PKACa | PKACa | **S12**;**S110**;**S119**;**S153**;S213;S312;S475;S480 |
| PTN12_HUMAN | Q05209 | Yes | 9606.ENSP00000248594 | PKACa | PKACa | **S39**;S275;S410 |
| LIPS_HUMAN | Q05469 | Yes | 9606.ENSP00000244289 | PKACa;PKACb;PKACg;PRKX;PRKY | PKACa | S170;**S853**;**S855**;S951 |
| Q5VTH7_HUMAN | Q07343 | | 9606.ENSP00000332116 | PKACa | | S60;**S133**;S154;S243 |
| LRP1_HUMAN | Q07954 | Yes | 9606.ENSP00000243077 | PKACa | PKACa | S2124;T2277;S2950;**S4520** |
| DEMA_HUMAN | Q08495 | Yes | 9606.ENSP00000265800 | PKACa | PKACa | S85;S152;S211;T267;S372 |
| CETN1_HUMAN | Q12798 | Yes | 9606.ENSP00000319052 | PKACa | PKACa | S9 |
| KCNH2_HUMAN | Q12809 | Yes | 9606.ENSP00000262186 | PKACa | PKACa | S179;S272;S275;**S283**;S284;S304;S890;T895;**S1137** |
| Q5TIF3_HUMAN | Q12972 | | 9606.ENSP00000311677 | PKACa | | **S178**;**S199** |

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|---|---|---|---|---|---|---|
| Q6SEI4_HUMAN | Q13370 | Yes | 9606.ENSP00000282096 | PKACa;PKACb;PKACg;PRKX;PRKY | PKACa | S279;S280;S295;S296;**S318**;S432;S442;S493;S494;S495;S1053 |
| GNA13_HUMAN | Q14344 | Yes | 9606.ENSP00000239138 | PKACa | PKACa | S31;**T203** |
| Q5VV70_HUMAN | Q14978 | Yes | 9606.ENSP00000348587 | PKACa | PKACa | S83;S124;S216;S264;S265;S469;S470;S486;S622;S681 |
| Q562F4_HUMAN | Q16613 | Yes | 9606.ENSP00000250615 | PKACa | PKACa | **T31** |
| RYR2_HUMAN | Q92736 | Yes | 9606.ENSP00000353174 | PKACa | PKACa | S139;S742;S2056;S2568;S2694;**S2808**;S3153;S4260;S4538;S4539;S4692 |
| SYN2_HUMAN | Q92777 | Yes | | | PKACa | **S10**;S330;S575 |
| Q6FH21_HUMAN | Q92934 | Yes | 9606.ENSP00000309103 | PKACa;PKACb;PKACg | PKACa | **S75**;S97;S118;S145;S164 |
| CUL5_HUMAN | Q93034 | Yes | 9606.ENSP00000299351 | PKACa | PKACa | S34;**S730** |
| Q96GN0_HUMAN | Q96GN0 | | 9606.ENSP00000278155 | PKACa | | **S176** |
| Q96P79_HUMAN | Q96P79 | | 9606.ENSP00000354718 | PKACb;PKACg | | S51;S331;S332;S577;S699;S1226;S1363;S1437;S1486;S1554;**S1565**;S1606;S1761;S1899;S2067;S2134;S2502;S2522;S2567;S2580;**S2737** |
| NEB2_HUMAN | Q96SB3 | Yes | 9606.ENSP00000320510 | PKACa | PKACa | **S100**;S754 |
| Q5BKZ6_HUMAN | Q99759 | Yes | | | PKACa | S112;**S166**;S194;S246;S316;S612 |
| HDAC8_HUMAN | Q9BY41 | Yes | 9606.ENSP00000354431 | PKACa | PKACa | **S39**;S83 |
| Q5T5B3_HUMAN | Q9Y6E0 | | 9606.ENSP00000261573 | PRKX;PRKY | | **T18**;S434 |
| S4A4_HUMAN | Q9Y6R1 | Yes | 9606.ENSP00000264485 | PKACa | PKACa | S177;T254;**S1026** |
| TNR16_HUMAN | P08138 | | 9606.ENSP00000172229 | PKACa;PKACb | | |
| Q6FI00_HUMAN | P24385 | Yes | 9606.ENSP00000227507 | PKACa | PKACa | |
| Q9BUQ0_HUMAN | P26599 | Yes | 9606.ENSP00000349428 | PKACa | PKACa | |
| Q3MIJ6_HUMAN | P32245 | Yes | 9606.ENSP00000299766 | PKACa | PKACa | |
| Q2NKM6_HUMAN | P42261 | | 9606.ENSP00000285900 | PKACa;PKACb;PKACg;PRKX;PRKY | | |
| Q5U024_HUMAN | P61586 | Yes | 9606.ENSP00000354222 | PKACa | PKACa | |

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|---|---|---|---|---|---|---|
| Q5QPH6_HUMAN | P62834 | Yes | 9606.ENSP00000235108 | PKACa;PKACb;PKACg;PRKX;PRKY | PKACa | |
| Q4W5A1_HUMAN | Q14103 | | 9606.ENSP00000313199 | PKACa | | |

**Predicted PKA substrates in human**

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|---|---|---|---|---|---|---|
| ABHD5_HUMAN | | | 9606.ENSP00000013894 | PKACa;PKACb;PKACg | | S237 |
| ADCY1_HUMAN | | | 9606.ENSP00000297323 | PKACa;PKACb;PKACg;PRKX;PRKY | | S550;S551;S943 |
| ADCY2_HUMAN | | | 9606.ENSP00000264672 | PKACa;PKACb;PKACg;PRKX;PRKY | | S515;S544;S1085 |
| ADCY6_HUMAN | | | 9606.ENSP00000311405 | PKACa;PKACb;PKACg;PRKX;PRKY | | T33;S576;S732 |
| ADCY7_HUMAN | | | 9606.ENSP00000254235 | PKACa;PKACb;PKACg;PRKX;PRKY | | S505 |
| ADCY8_HUMAN | | | 9606.ENSP00000286355 | PKACa;PKACb;PKACg;PRKX;PRKY | | S31;S181;T236;S614 |
| ADCY9_HUMAN | | | 9606.ENSP00000294016 | PKACa;PKACb;PKACg;PRKX;PRKY | | S38;S373;S374;S922 |
| AKAP9_HUMAN | | | 9606.ENSP00000339128 | PKACb;PKACg | | T54;S55;S402;S403;S972;S1654;S1679;S1694;S1773;S1777;S2252;S2383;S2451;S2710;S2860;T3111;S3317;S3460 |
| AKP8L_HUMAN | | Yes | 9606.ENSP00000263378 | PKACa | PKACa | S522 |
| AP2A1_HUMAN | | Yes | | | PKACb | S611 |
| BCA3_HUMAN | | Yes | 9606.ENSP00000310459 | PKACa | PKACa | T143;S144 |
| CAC1C_HUMAN | | | 9606.ENSP00000266376 | PKACa | | S465;S498;T688;S1645;S1879;S1904;S1975;S1981 |

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|---|---|---|---|---|---|
| CCNB1_HUMAN | | 9606.ENSP00000256442 | PKACb;PKACg | | S310 |
| CDC2_HUMAN | | 9606.ENSP00000306043 | PKACb | | S53 |
| CDK2_HUMAN | | 9606.ENSP00000266970 | PRKX | | S53;S276 |
| CDK5_HUMAN | | 9606.ENSP00000297518 | PKACg | | S276 |
| CDKL2_HUMAN | | 9606.ENSP00000306340 | PKACa;PRKX | | S312;S373;S409 |
| CDY1_HUMAN | | 9606.ENSP00000302968 | PRKY | | T59;T82;S83;T452 |
| CDY2_HUMAN | | 9606.ENSP00000250838 | PRKY | | T59;T82;S83;T453 |
| CMGA_HUMAN | Yes | | | PRKX | S136 |
| CND1_HUMAN | | 9606.ENSP00000325017 | PKACb;PKACg | | T466;S829;S907;S1320;T1346;S1357 |
| CNR1_HUMAN | | 9606.ENSP00000306843 | PKACa | | S185 |
| CPNS1_HUMAN | | 9606.ENSP00000246533 | PKACb;PKACg | | S218 |
| CSF1R_HUMAN | | 9606.ENSP00000286301 | PRKX | | S713;S730 |
| CTNB1_HUMAN | | 9606.ENSP00000344456 | PKACa;PKACb;PKACg;PRKX;PRKY | | S389;S552;S675 |
| CXA5_HUMAN | Yes | 9606.ENSP00000271348 | PKACa | PKACa | S344 |
| DDX3Y_HUMAN | | 9606.ENSP00000353284 | PRKY | | S288;S586;S604;S617;S618 |
| DLG4_HUMAN | | 9606.ENSP00000293813 | PKACg | | S295;S371;S519 |
| DNJC5_HUMAN | Yes | | | PKACa | S8;S10 |
| EF2K_HUMAN | Yes | 9606.ENSP00000263026 | PKACa | PKACa | S70;S435 |
| EGFR_HUMAN | | 9606.ENSP00000275493 | PKACa | | T678 |
| EVL_HUMAN | | 9606.ENSP00000347624 | PKACa | | S152;S158;S259;S331;S345 |
| GCR_HUMAN | Yes | 9606.ENSP00000231509 | PKACa | PKACa | S134;S617 |
| GFAP_HUMAN | Yes | 9606.ENSP00000253408 | PKACa | PKACa | T7;S38;S68;S393 |
| GLI1_HUMAN | | 9606.ENSP00000228682 | PKACa;PKACb;PKACg;PRKX;PRKY | | S84;S408;S543;S544;S545;S559;S560;S640;S982 |
| GLI2_HUMAN | | 9606.ENSP00000344473 | PKACa;PKACb;PKACg;PRKX;PRKY | | S29;S30;S480;S481;S496;S507;S508;S538;S539;S584;S613;S642;S702 |

| Name | Kinase? | Ensembl ID | Kinases | Kinase2 | Sites |
|---|---|---|---|---|---|
| GLI3_HUMAN | | 9606.ENSP00000342226 | PKACa;PKACb;PKACg;PRKX;PRKY | | S84;T293;S295;S327;S328;S369;S849;S850;S865;S876;S877;S906;S907;S952;S980;S1006;S1026 |
| GNRP_HUMAN | Yes | 9606.ENSP00000261752 | PKACa | PKACa | S34;S462;S738;S836;S929 |
| GTR4_HUMAN | | 9606.ENSP00000320935 | PKACa;PKACb | | S243 |
| GYS1_HUMAN | Yes | 9606.ENSP00000317904 | PKACa | PKACa | S8;S698;S710 |
| H2A3_HUMAN | Yes | | | PKACa | S19 |
| HAND2_HUMAN | Yes | 9606.ENSP00000352565 | PKACa | PKACa | T103;T112;S114 |
| HGF_HUMAN | | 9606.ENSP00000222390 | PRKX | | T38 |
| HMDH_HUMAN | Yes | 9606.ENSP00000287936 | PKACa | PKACa | S138;S504 |
| HMGN2_HUMAN | | 9606.ENSP00000347963 | PKACa | | S24 |
| IL9R_HUMAN | | 9606.ENSP00000244174 | PRKY | | S432;S433 |
| INAR1_HUMAN | Yes | 9606.ENSP00000270139 | PKACa | PKACa | S528 |
| INVS_HUMAN | | 9606.ENSP00000262457 | PRKX;PRKY | | S637;S957;S1030 |
| IP3KA_HUMAN | Yes | 9606.ENSP00000260386 | PKACa | PKACa | S121;S212 |
| IP3KB_HUMAN | Yes | 9606.ENSP00000272117 | PKACa | PKACa | S184;S280;S599;S764 |
| IPKA_HUMAN | Yes | 9606.ENSP00000336552 | PKACa;PKACb;PRKX;PRKY | PKACa;PRKX | S59 |
| IQGA1_HUMAN | Yes | 9606.ENSP00000268182 | PKACa | PKACa | S360 |
| ISK5_HUMAN | Yes | | | PKACa | S270;S357;S427 |
| ITB7_HUMAN | | 9606.ENSP00000267082 | PKACb | | S250 |
| ITPR1_HUMAN | Yes | 9606.ENSP00000349597 | PKACa | PKACa | S271;S472;S712;S1177;S1541;S1598;S1764;S2565;S2690 |
| ITPR2_HUMAN | Yes | 9606.ENSP00000242737 | PKACa | PKACa | S150;S271;S1532;S2508;S2633 |
| JAD1D_HUMAN | | 9606.ENSP00000322408 | PRKY | | S780 |
| KAP0_HUMAN | Yes | 9606.ENSP00000226090 | PKACa;PKACb;PKACg;PRKX;PRKY | PKACa;PRKX | S307 |
| KCNB1_HUMAN | | 9606.ENSP00000289405 | PKACa;PKACb;PKACg;PRKX;PRKY | | S444;S496;S518;S519;S700 |
| KIF17_HUMAN | | 9606.ENSP00000318133 | PKACg | | S248;T460;S720;S922;S959;S969;S1020 |

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|---|---|---|---|---|---|
| KPB1_HUMAN | Yes | 9606.ENSP00000262840 | PKACa | PKACa | S5;S250;S431;T866;S1018 |
| LPXN_HUMAN | | 9606.ENSP00000263845 | PKACb | | S88;S127;T327 |
| MAP2_HUMAN | | 9606.ENSP00000352460 | PKACa | | S532;S821;S833;T1068;S1324;S1421;T1506;T1507;S1540;T1577;S1787;S1795 |
| MBP_HUMAN | | 9606.ENSP00000348273 | PKACa | | S16;S40;S141;S190 |
| MEP1B_HUMAN | Yes | 9606.ENSP00000269202 | PKACa | PKACa | S289;S408;S513;S648;S687 |
| MGR3_HUMAN | | 9606.ENSP00000355316 | PKACb;PKACg | | T718;S845 |
| MK03_HUMAN | | 9606.ENSP00000263025 | PKACa;PKACb;PKACg;PRKX;PRKY | | T320 |
| MLC1_HUMAN | | 9606.ENSP00000310375 | PKACb | | S176 |
| MLTK_HUMAN | | 9606.ENSP00000340257 | PKACg | | S252;S567;S636;S637;S718;S757 |
| NHERF_HUMAN | | 9606.ENSP00000262613 | PKACb;PKACg | | S289;S339 |
| NIN_HUMAN | Yes | 9606.ENSP00000310655 | PKACa | PKACa | S80;S269;T281;S812;S926;S1927;S2020 |
| NMDE2_HUMAN | | 9606.ENSP00000279593 | PKACb;PKACg | | S28;S350;S469;S882;S929;S930;S1095;S1166;S1323;T1410 |
| NMDE3_HUMAN | | 9606.ENSP00000338645 | PKACg | | S437;S1016;S1081;S1095;S1227;S1228 |
| NMDE4_HUMAN | | 9606.ENSP00000263269 | PKACg | | S939;T1288;S1326 |
| NMDZ1_HUMAN | | 9606.ENSP00000316696 | PKACg | | S126;S189;S896;S897 |
| O14605_HUMAN | | 9606.ENSP00000250805 | PRKY | | S19 |
| OXER1_HUMAN | | 9606.ENSP00000294971 | PKACb;PKACg | | S205;S398 |
| P52K_HUMAN | | 9606.ENSP00000260045 | PKACb;PKACg;PRKX;PRKY | | S14;T15;S718 |
| PDE3A_HUMAN | | 9606.ENSP00000351957 | PKACa;PKACb;PKACg;PRKX;PRKY | | S62;S225;S292;S293;S294;S312;S336;S438;S465;S511;S654 |
| PDE4D_HUMAN | Yes | 9606.ENSP00000345502 | PKACa | PKACa | S190;S210;S211;S252;S299;S561 |
| PHX2A_HUMAN | Yes | 9606.ENSP00000298231 | PKACa | PKACa | S153 |
| PI51B_HUMAN | | 9606.ENSP00000322356 | PKACg | | S214;S221 |

| Protein | | Ensembl | Kinases | | Sites |
|---|---|---|---|---|---|
| PKD1_HUMAN | | 9606.ENSP00000262304 | PRKX;PRKY | | S2000;S2164;S2890;S3894;S4166;S4169;S4252 |
| PKN1_HUMAN | | 9606.ENSP00000343325 | PKACb;PKACg | | T63;S374;S380 |
| PLIN_HUMAN | Yes | 9606.ENSP00000300055 | PKACa;PKACb;PKACg | PKACa | S81;S130;S277;S382;S436;S455;S497 |
| PSA7_HUMAN | Yes | | | PKACa | S30;S49 |
| PTN13_HUMAN | Yes | 9606.ENSP00000349909 | PKACa | PKACa | S40;S215;S827;S887;S936;S967;S1082;S1204;S1229;S1243;S1341;S1651;S1858 |
| PTPRR_HUMAN | | 9606.ENSP00000339605 | PKACa | | S339;S652 |
| PYR1_HUMAN | Yes | 9606.ENSP00000264705 | PKACa | PKACa | S688;S691;S1406;S1900;S1978 |
| Q12771_HUMAN | Yes | | | PKACa | S266 |
| Q20BG8_HUMAN | | 9606.ENSP00000003084 | PKACa;PKACb;PKACg | | S10;S422;S557;S660;S686;S700;S712;S737;S768;T787;T788;S795;S813;S902;S1456 |
| Q2KHN7_HUMAN | | 9606.ENSP00000302355 | PRKY | | S18 |
| Q2M1M1_HUMAN | Yes | 9606.ENSP00000300105 | PKACa | PKACa | S237;S239;S240;S241 |
| Q2M241_HUMAN | | 9606.ENSP00000290374 | PKACa;PKACb;PKACg;PRKX;PRKY | | S110;S185;S293;S315 |
| Q2M3B4_HUMAN | Yes | | | PKACa | S40;S152;S171;S318 |
| Q2M3N2_HUMAN | Yes | 9606.ENSP00000220003 | PKACa;PKACb;PKACg | PKACa | S340;S364 |
| Q2TAJ3_HUMAN | Yes | | | PKACa | S94;S407 |
| Q32M72_HUMAN | Yes | | | PKACa | S241 |
| Q32MQ3_HUMAN | | 9606.ENSP00000306124 | PKACb;PKACg | | S346;S380 |
| Q3B790_HUMAN | | 9606.ENSP00000303812 | PKACa | | S7;S21 |
| Q3MIV9_HUMAN | | 9606.ENSP00000351142 | PKACg | | S337;S379;T528;S855 |
| Q3SXR8_HUMAN | | 9606.ENSP00000306277 | PRKX | | S22;S23 |
| Q4KMQ6_HUMAN | Yes | 9606.ENSP00000242066 | PKACa | PKACa | S216;S334 |
| Q4LE79_HUMAN | Yes | | | PKACa | S212;S958;S1174;S1336;S1657;S1999;S2037;S2056;S2156;S2277;S2281;S2285;S2289;S2297 |
| Q4VB56_HUMAN | | 9606.ENSP00000325738 | PKACb | | S44;S48 |

| Protein | | Ensembl | Kinases | Kinase | Sites |
|---|---|---|---|---|---|
| Q4VX75_HUMAN | | 9606.ENSP00000338934 | PKACb;PKACg | | S66;T332;T519 |
| Q52NZ1_HUMAN | Yes | | | PKACa | T281 |
| Q53FV8_HUMAN | Yes | | | PKACa | S306;S320 |
| Q53QF9_HUMAN | | 9606.ENSP00000263339 | PKACb | | S87 |
| Q53T66_HUMAN | | 9606.ENSP00000234091 | PRKX | | S14;S60 |
| Q53Y25_HUMAN | | 9606.ENSP00000223366 | PKACa;PKACb;PKACg | | S396;T431 |
| Q53YB1_HUMAN | Yes | | | PKACa | S71;S156;S320 |
| Q547U9_HUMAN | | 9606.ENSP00000332549 | PKACb;PKACg | | S468;S1025;S1045;S1312;S1342;S1404 |
| Q547V9_HUMAN | Yes | 9606.ENSP00000254079 | PKACa;PKACb;PKACg | PKACa | T34;S58;S198 |
| Q548L2_HUMAN | Yes | 9606.ENSP00000349623 | PKACa | PKACa | S7;S25;S26 |
| Q561W4_HUMAN | Yes | | | PKACa | S178;S199 |
| Q59EI9_HUMAN | | 9606.ENSP00000306222 | PRKX;PRKY | | S17 |
| Q59F64_HUMAN | | 9606.ENSP00000225964 | PKACg | | S1362 |
| Q59FX9_HUMAN | Yes | | | PKACa | S185;T222;S432;S440 |
| Q5H9B0_HUMAN | Yes | | | PKACa | S9;S330;S449;S568;S605 |
| Q5HYQ7_HUMAN | | 9606.ENSP00000327890 | PKACa;PKACb;PKACg;PRKY | | S174 |
| Q5JWF2_HUMAN | | 9606.ENSP00000302237 | PKACa;PKACb;PKACg | | S214;S254;S691 |
| Q5JXS5_HUMAN | | 9606.ENSP00000289537 | PKACa;PKACb;PKACg | | S33 |
| Q5SXQ1_HUMAN | | 9606.ENSP00000336997 | PKACa | | S25;S83;S285 |
| Q5SZK7_HUMAN | | 9606.ENSP00000265601 | PKACb;PKACg | | S42;S343 |
| Q5T3T4_HUMAN | | 9606.ENSP00000315420 | PKACa | | S439;S441;S498;S499;S515;S569;S570 |
| Q5T3Z8_HUMAN | Yes | | | PKACa | S71 |
| Q5T5Y4_HUMAN | | 9606.ENSP00000046967 | PKACg | | S312 |
| Q5TC39_HUMAN | | 9606.ENSP00000230402 | PKACb;PKACg | | S60;S88;S89;S356;S573 |

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|---|---|---|---|---|---|
| Q5THJ6_HUMAN | | 9606.ENSP00000029717 | PKACb | | S364 |
| Q5U0B5_HUMAN | Yes | | | PKACa | T138 |
| Q5VT17_HUMAN | | 9606.ENSP00000322727 | PKACg | | S64 |
| Q5VV10_HUMAN | Yes | | | PKACa | S405;S435;S546 |
| Q5VVF4_HUMAN | | 9606.ENSP00000327513 | PRKX | | T446;S485;S524 |
| Q5VVQ3_HUMAN | Yes | | | PKACa | S463 |
| Q5VVQ4_HUMAN | | 9606.ENSP00000271749 | PKACa | | S466;S483 |
| Q5VY38_HUMAN | | 9606.ENSP00000354950 | PKACg | | T247;S597;S726;S1621 |
| Q5VY78_HUMAN | Yes | 9606.ENSP00000302111 | PKACa | PKACa | T11 |
| Q5VZ01_HUMAN | | 9606.ENSP00000297735 | PKACg | | S56 |
| Q5W1A8_HUMAN | | 9606.ENSP00000333055 | PKACa | | S52;S120 |
| Q6FH37_HUMAN | Yes | | | PKACa | S8;S57 |
| Q6FHU1_HUMAN | | 9606.ENSP00000282561 | PKACa;PKACb;PKACg;PRKX;PRKY | | S306;S364;S365;S368;S369;S372 |
| Q6GTT3_HUMAN | | 9606.ENSP00000312262 | PKACa | | S685 |
| Q6IAZ6_HUMAN | Yes | | | PKACa | S162 |
| Q6IB01_HUMAN | | 9606.ENSP00000257905 | PKACa;PKACb;PKACg;PRKX;PRKY | | T35 |
| Q6ISC3_HUMAN | | 9606.ENSP00000314067 | PRKX;PRKY | | S260;T402;S490 |
| Q6YNR3_HUMAN | | 9606.ENSP00000320002 | PKACa;PKACg | | S138 |
| Q86XM2_HUMAN | Yes | | | PKACa | S59;S481 |
| Q8IWE7_HUMAN | | 9606.ENSP00000346310 | PKACg | | S43 |
| Q8N3I9_HUMAN | | 9606.ENSP00000354927 | PKACa | | S47;S143;S197;S225;S277;S347;S643 |
| Q8N5V8_HUMAN | | 9606.ENSP00000326830 | PKACb | | S26;S34;S36;T138;S140 |
| Q8N6C0_HUMAN | Yes | | | PKACa | S465;S498;T688;S1597;S1821;S1892;S1898 |
| Q8NDI4_HUMAN | | 9606.ENSP00000245544 | PKACa | | S134;S653 |
| Q8NE02_HUMAN | | 9606.ENSP00000269701 | PKACb;PKACg | | S182 |
| Q8NIA4_HUMAN | | 9606.ENSP00000307082 | PKACg | | S14;T255;S299;S333;S334;S535 |

| Protein | | Ensembl | Kinases | Kinase | Sites |
|---|---|---|---|---|---|
| Q96AQ3_HUMAN | | 9606.ENSP00000310030 | PKACa;PKACb;PKACg;PRKX;PRKY | | S326 |
| Q96EL5_HUMAN | | 9606.ENSP00000353576 | PKACa | | S657 |
| Q9BQ80_HUMAN | | 9606.ENSP00000348515 | PKACg | | S91 |
| Q9BW27_HUMAN | Yes | | | PKACa | S133;S652 |
| Q9BX06_HUMAN | Yes | 9606.ENSP00000275066 | PKACa | PKACa | S128;S238;S434;S438 |
| Q9NRC2_HUMAN | Yes | | | PKACa | S129;S373 |
| Q9NTI9_HUMAN | | 9606.ENSP00000315757 | PKACa | | S5;S536;S537 |
| Q9NUP6_HUMAN | Yes | 9606.ENSP00000261441 | PKACa | PKACa | S43;S44;S70;S430;S506 |
| Q9UHB4_HUMAN | | 9606.ENSP00000343344 | PKACg | | S385 |
| Q9UP23_HUMAN | Yes | 9606.ENSP00000271587 | PKACa;PKACb;PKACg;PRKX;PRKY | PKACa | S91;S110 |
| RAD_HUMAN | Yes | 9606.ENSP00000299759 | PKACa | PKACa | S26;S214;S257;S273 |
| RASK_HUMAN | | 9606.ENSP00000256078 | PKACg | | S172 |
| RYR1_HUMAN | Yes | 9606.ENSP00000352608 | PKACa | PKACa | S1728;S2843;T4324 |
| SC5A1_HUMAN | Yes | | | PRKX | S418 |
| SEC20_HUMAN | Yes | | | PKACa | T127 |
| SNP25_HUMAN | | 9606.ENSP00000254976 | PKACa | | T138 |
| SRP72_HUMAN | | 9606.ENSP00000342181 | PKACg | | S210;S326 |
| STK11_HUMAN | Yes | 9606.ENSP00000324856 | PKACa | PKACa | S299;S428 |
| STMN2_HUMAN | Yes | 9606.ENSP00000220876 | PKACa | PKACa | S50;S97 |
| SYN1_HUMAN | | 9606.ENSP00000263237 | PKACa | | S9;S330;S449;S568;S605;S681;S698 |
| TF65_HUMAN | Yes | 9606.ENSP00000311508 | PKACa | PKACa | S276;T305;S338 |
| TRBM_HUMAN | | 9606.ENSP00000315029 | PKACb | | S65 |
| USP9Y_HUMAN | | 9606.ENSP00000342812 | PRKY | | S761;S1940 |
| UTY_HUMAN | | 9606.ENSP00000351914 | PRKY | | S31;S382;S500;S501;S586;S1313 |
| WBS14_HUMAN | | 9606.ENSP00000320886 | PKACa;PKACb;PKACg | | S140;S196;S614;T653;S798 |
| ZFY_HUMAN | | 9606.ENSP00000155093 | PRKY | | S639;S785 |
| ADCY5_HUMAN | Yes | 9606.ENSP00000308685 | PKACa;PKACb;PKACg;PRKX;PRKY | PKACa | |

| | | | | |
|---|---|---|---|---|
| AKA28_HUMAN | Yes | 9606.ENSP00000334550 | PKACa | PKACa |
| BCL2_HUMAN | Yes | 9606.ENSP00000353498 | PKACa | PKACa |
| BGLR_HUMAN | Yes | | | PKACa |
| CH60_HUMAN | Yes | | | PKACa |
| GRIA1_HUMAN | Yes | | | PKACa |
| GSUB_HUMAN | Yes | 9606.ENSP00000340125 | PKACa | PKACa |
| HMGN2_HUMAN | Yes | 9606.ENSP00000324171 | PKACa | PKACa |
| IRK12_HUMAN | Yes | 9606.ENSP00000328150 | PKACa | PKACa |
| KLF1_HUMAN | Yes | 9606.ENSP00000264834 | PKACa | PKACa |
| MGN_HUMAN | Yes | | | PKACa |
| PRLR_HUMAN | Yes | | | PKACa |
| Q3KQY7_HUMAN | Yes | 9606.ENSP00000191922 | PKACa | PKACa |
| Q53Y01_HUMAN | Yes | | | PKACa |
| Q59FC7_HUMAN | Yes | | | PKACa |
| Q5SXU8_HUMAN | Yes | 9606.ENSP00000271856 | PKACa | PKACa |
| Q5T8W2_HUMAN | Yes | 9606.ENSP00000244689 | PKACa | PKACa |
| Q68GS5_HUMAN | Yes | | | PKACa |
| Q75L79_HUMAN | Yes | 9606.ENSP00000297926 | PKACa | PKACa |
| Q7RTZ3_HUMAN | Yes | 9606.ENSP00000328213 | PKACa | PKACa |
| Q9BRD5_HUMAN | Yes | | | PKACa |
| TPSN_HUMAN | Yes | | | PKACa |
| AAKG1_HUMAN | | 9606.ENSP00000323867 | PKACb;PKACg | |
| AKAP3_HUMAN | | 9606.ENSP00000228850 | PKACa | |
| AKT1_HUMAN | | 9606.ENSP00000270202 | PKACb;PKACg | |
| AMELY_HUMAN | | 9606.ENSP00000215479 | PRKX;PRKY | |
| ARSE_HUMAN | | 9606.ENSP00000354503 | PRKX | |
| CBX8_HUMAN | | 9606.ENSP00000269385 | PRKY | |
| CD36_HUMAN | | 9606.ENSP00000353555 | PKACb | |
| CSRP3_HUMAN | | 9606.ENSP00000265968 | PKACg | |
| GBG1_HUMAN | | 9606.ENSP00000248572 | PKACb;PKACg | |

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|---|---|---|
| GRIA2_HUMAN | 9606.ENSP00000264426 | PKACa;PKACb;PKACg;PRKX;PRKY |
| HMGN2_HUMAN | 9606.ENSP00000355228 | PKACa |
| IF1AY_HUMAN | 9606.ENSP00000354722 | PRKY |
| IGF1B_HUMAN | 9606.ENSP00000302665 | PKACb;PKACg |
| KBRS2_HUMAN | 9606.ENSP00000351719 | PKACa;PKACb;PKACg |
| MK01_HUMAN | 9606.ENSP00000215832 | PKACa;PKACb;PKACg;PRKX;PRKY |
| NEK7_HUMAN | 9606.ENSP00000281083 | PKACg |
| NMT1_HUMAN | 9606.ENSP00000258960 | PKACa |
| O14606_HUMAN | 9606.ENSP00000354051 | PRKY |
| PP1A_HUMAN | 9606.ENSP00000326031 | PKACa;PKACb;PKACg |
| PP1B_HUMAN | 9606.ENSP00000296122 | PKACa;PKACb;PKACg |
| PP1G_HUMAN | 9606.ENSP00000341779 | PKACa;PKACb;PKACg |
| PRDX1_HUMAN | 9606.ENSP00000262746 | PKACb |
| Q38G75_HUMAN | 9606.ENSP00000313026 | PRKY |
| Q38L19_HUMAN | 9606.ENSP00000340019 | PKACa |
| Q3B790_HUMAN | 9606.ENSP00000355293 | PKACa |
| Q3KR25_HUMAN | 9606.ENSP00000290551 | PKACb |
| Q496E4_HUMAN | 9606.ENSP00000250784 | PRKY |
| Q4W5P4_HUMAN | 9606.ENSP00000274026 | PRKX |
| Q53F77_HUMAN | 9606.ENSP00000316598 | PRKY |
| Q53F96_HUMAN | 9606.ENSP00000235470 | PKACb;PKACg |
| Q53S29_HUMAN | 9606.ENSP00000272298 | PKACg |

| | | |
|---|---|---|
| Q53T54_HUMAN | 9606.ENSP00000260600 | PKACa;PKACb;PKACg;PRKX;PRKY |
| Q53TK1_HUMAN | 9606.ENSP00000260630 | PKACb |
| Q53XX2_HUMAN | 9606.ENSP00000263341 | PKACb |
| Q549U0_HUMAN | 9606.ENSP00000302728 | PKACa |
| Q567T9_HUMAN | 9606.ENSP00000346227 | PKACa;PKACb |
| Q5EB53_HUMAN | 9606.ENSP00000312673 | PKACg |
| Q5QPR5_HUMAN | 9606.ENSP00000263750 | PKACb;PKACg |
| Q5TE65_HUMAN | 9606.ENSP00000302564 | PKACb;PKACg |
| Q5VUH0_HUMAN | 9606.ENSP00000282728 | PRKX |
| Q5VZ16_HUMAN | 9606.ENSP00000238356 | PKACg |
| Q69FE3_HUMAN | 9606.ENSP00000349096 | PKACa;PKACb |
| Q6FI20_HUMAN | 9606.ENSP00000344220 | PKACa |
| Q6IBG8_HUMAN | 9606.ENSP00000317659 | PRKY |
| Q6IBJ2_HUMAN | 9606.ENSP00000263182 | PKACb |
| Q6ICV7_HUMAN | 9606.ENSP00000002594 | PRKY |
| Q6IS69_HUMAN | 9606.ENSP00000291744 | PKACg |
| Q6NSY2_HUMAN | 9606.ENSP00000023165 | PKACg |
| Q86TZ7_HUMAN | 9606.ENSP00000312126 | PKACa;PKACb;PKACg;PRKX;PRKY |
| Q96E31_HUMAN | 9606.ENSP00000288840 | PRKX |
| Q96I59_HUMAN | 9606.ENSP00000281038 | PRKY |
| Q96J53_HUMAN | 9606.ENSP00000296503 | PKACb |
| SHH_HUMAN | 9606.ENSP00000297261 | PKACb |
| SYBL1_HUMAN | 9606.ENSP00000262640 | PRKY |
| TYB4Y_HUMAN | 9606.ENSP00000284856 | PRKY |
| UHMK1_HUMAN | 9606.ENSP00000311376 | PRKX |

**Supplementary Table 5** – Predicted and conserved PKA substrates. Only one protein, a PKA regulatory subunit, is conserved in all four organisms (KAPR_YEAST, KAPR_CAEEL, KAPR2_DROME and KAP2_HUMAN).

| *S. cerevisiae* | *C. elegans* | *D. melanogaster* | *H. sapiens* |
|---|---|---|---|
| | Q966F9_CAEEL | | ADCY5_HUMAN |
| ATC2_YEAST | | | AT2B1_HUMAN |
| | | Q541F9_DROME | CBX8_HUMAN |
| HSP60_YEAST | | | CH60_HUMAN |
| GYS1_YEAST | | | GYS1_HUMAN |
| | | Q9VL05_DROME | HAND2_HUMAN |
| K6PF2_YEAST | | | K6PL_HUMAN |
| KAPR_YEAST | KAPR_CAEEL | KAPR2_DROME | KAP2_HUMAN |
| | OSM3_CAEEL | | KIF17_HUMAN |
| FUS3_YEAST | | Q7PL59_DROME | MK03_HUMAN |
| Q45U43_YEAST | | | MK01_HUMAN |
| PYR1_YEAST | | | PYR1_HUMAN |
| GAL10_YEAST | | | Q38G75_HUMAN |
| | | Q9W0K2_DROME | Q3KPG8_HUMAN |
| HXKA_YEAST | | | Q53Y25_HUMAN |
| | RHOA_CAEEL | | Q5U024_HUMAN |
| MDS1_YEAST | | SGG_DROME | Q6FI27_HUMAN |
| KGUA_YEAST | | Q9VTB3_DROME | Q6IBG8_HUMAN |
| SYNM_YEAST | | | Q96I59_HUMAN |
| CDC28_YEAST | | CDC2_DROME | |
| | O16853_CAEEL | DPN_DROME | |
| DUN1_YEAST | | LOK_DROME | |
| HOG1_YEAST | | MK14B_DROME | |
| KIN28_YEAST | | Q24216_DROME | |
| RPE_YEAST | | Q95RV5_DROME | |
| RAS1_YEAST | | RAS1_DROME | |
| PDE2_YEAST | PDE6_CAEEL | | |