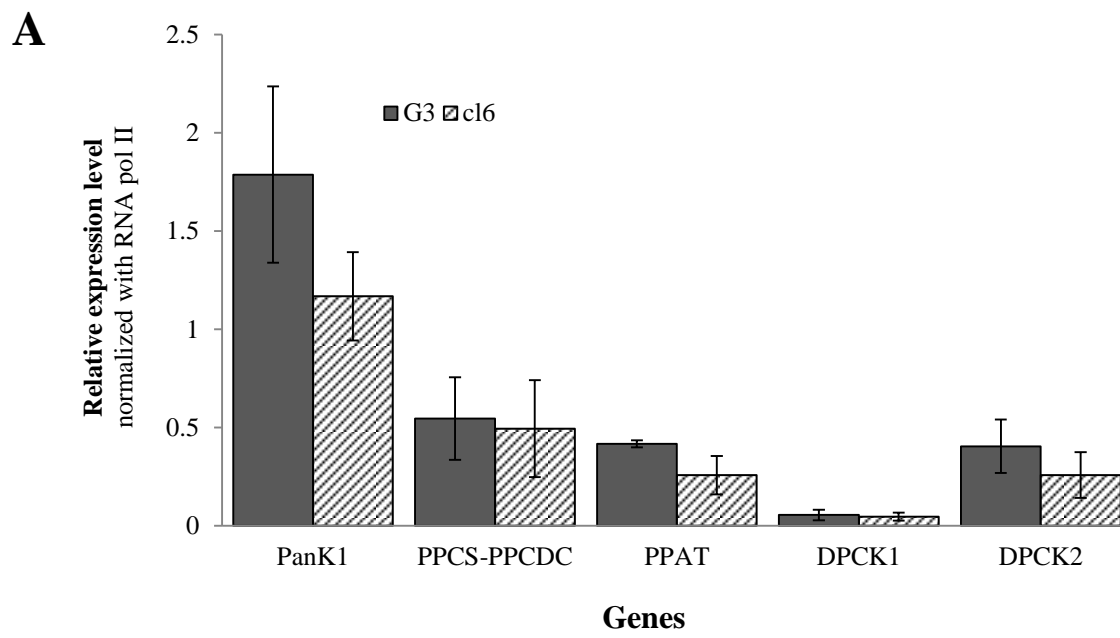


Fig. S1



B

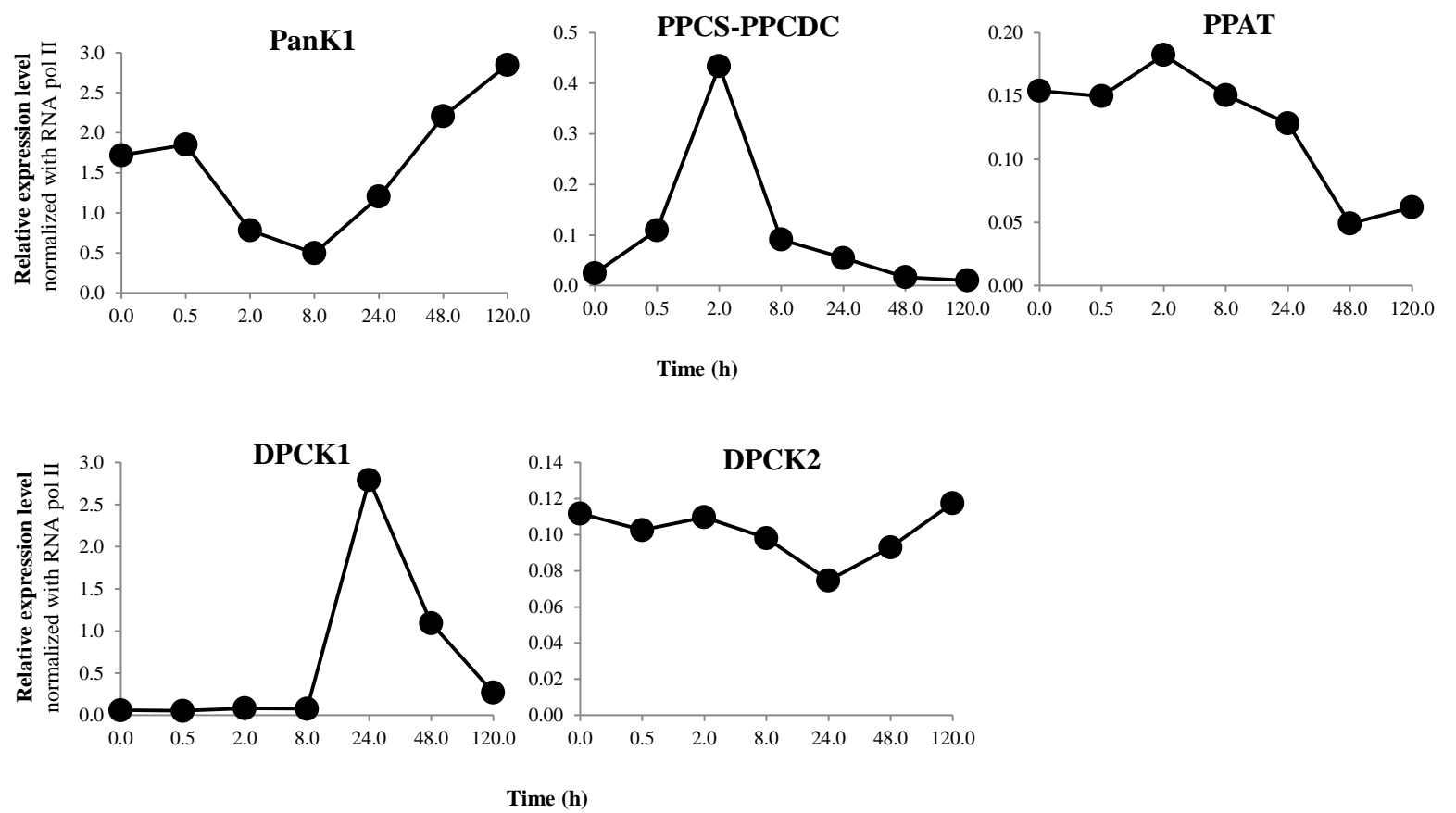


Fig. S3

| | | |
|-------------------------|---|-----|
| <i>E.histolytica</i> | -----MSQPSHSIPSKHSVLSNEDIE-HDDHITH | 28 |
| <i>E.nuttali</i> | -----MSQPSHSIPSKHDLVFNEDIE-HDDHITH | 28 |
| <i>H.sapiens</i> PanK4 | -----MSWPGTFKMAEC--G----AS-GSGS-----SG | 21 |
| <i>H.sapiens</i> PanK3 | ----- | 0 |
| <i>A.thaliana</i> PanK2 | MAGQEDEYDPILDNKREAEAKSQVSVAADKNMAPSTSGTPIHRS-GSRPQLDLSKAEIQG | 59 |
| | | |
| <i>E.histolytica</i> | TFEQYEFTKTQSPLPLNGVRRRTAPLSADMCGTMTKIVFWIPGDTDIDLK-YVEPEESV | 87 |
| <i>E.nuttali</i> | NFEQYEFTKTQSPLPLNGVRRRTAPLSADICGTMTKIVFWIPGDTDIDLK-YVEPEESV | 87 |
| <i>H.sapiens</i> PanK4 | --DSLDKSITLPPDEIFRNLENAKRFAIDICGSLTKLAYYSTVQHKVAKVRSFDHSGKDT | 79 |
| <i>H.sapiens</i> PanK3 | -----MKIKDAKPSFPWFGMDICGTLVKLSYFEPIDITAEQEEVESLKSI | 48 |
| <i>A.thaliana</i> PanK2 | NLEERDPTILL-----PNQSDDISHLALDICGSLIKLLYFSRHEDYSNDDDKRKRT--IK | 112 |
| | * * * * | |
| | | |
| <i>E.histolytica</i> | -----MSGFDLYPD--PVLKVTMNSKGENELCFMKFPTSQIPEFIHYAKTSKLKEI- | 136 |
| <i>E.nuttali</i> | -----MSGFDLYPD--PVLKVTMNSKGENELCFMKFPTLQIPEFIHYAKTSKLKEI- | 136 |
| <i>H.sapiens</i> PanK4 | -----EREHEPP--YEISVQ--EETARLHFIFKENTYIEACLDLFKDHVN--- | 122 |
| <i>H.sapiens</i> PanK3 | RKYLTSNVAYGSTGIRDVHLELKDLTFLGRRGNLHFIRFPTQDLPTFIQMRDKNF---- | 104 |
| <i>A.thaliana</i> PanK2 | -----ERLGITN--GNLRSY-PVLGGRLHFVKFETHKINECLDFIHSKQLHRRDP | 159 |
| | | |
| <i>E.histolytica</i> | -YG-----IGNLQILNVTGGGAYKFANLLKDEMDLEVRQQDEMRCVLVGVNLLLCC-- | 187 |
| <i>E.nuttali</i> | -YG-----IGNLQILNVTGGGAYKFANLLKDEMDLEVRQQDEMRCVLVGVNLLLCC-- | 187 |
| <i>H.sapiens</i> PanK4 | -----TETKVIQATGGGAYKFKDLIEEKLRLKVDKEDVMTCLIKGCNFVLKNI-- | 170 |
| <i>H.sapiens</i> PanK3 | -----STLQTVLCATGGGAYKFEKDFRTIGNLHLHLKLELDCLVKGLLYIDSVSFN | 155 |
| <i>A.thaliana</i> PanK2 | PYPWSSKTLPLGTGVIKVTGGGAFKFDLKERLGVSIKEKEDEMHCLVSGANFLLKAI-- | 217 |
| | ***** ** * *** * | |
| | | |
| <i>E.histolytica</i> | QEKLCFRFVNKTKL-----YREVTPEIFPYLLVNVGSGVSIKLVTAPEKYERVSGSLIGG | 242 |
| <i>E.nuttali</i> | QEKLCFRFVNKTKL-----YREVTPEIFPYLLVNVGSGVSIKLVTAPEKYERVSGSLIGG | 242 |
| <i>H.sapiens</i> PanK4 | -PHEAFVYQKDS--PEFRFQTNHPHIFPYLLVNVGSGVSIKLVKVEDRFEWVGSSIGG | 227 |
| <i>H.sapiens</i> PanK3 | GQAECCYFANASEPERCQKMPFNLDPPYLLVNVGSGVSIKLVHVKDNYKRVGTSLGG | 215 |
| <i>A.thaliana</i> PanK2 | -RHEAFTHMEGEK--EF--VQIDPNLDPYLLVNVGSGVSIKLVKVDGEGKFERVSGTNVGG | 272 |
| | ***** ***** * * * * | |
| | | |
| <i>E.histolytica</i> | GTFWGLCCLLTNYKSFDEMLQAAQYQGHQNVLDLYVKDIYGR-CYDSVGLAADMMASSFGK | 301 |
| <i>E.nuttali</i> | GTFWGLCCLLTNYKSFDEMLQAAQYQGHQNVLDLYVKDIYGR-CYDSVGLAADMMASSFGK | 301 |
| <i>H.sapiens</i> PanK4 | GTFWGLGALLTKTKKFDELLHLASRGQHSNVDMVLRDVYGGAH-QTLGLSGNLIASSFGK | 286 |
| <i>H.sapiens</i> PanK3 | GTFLGLCSLLTGCESEFALEMASKGDSTQADKLVRDIYGG-DYERFGLPGWAVASSFGN | 274 |
| <i>A.thaliana</i> PanK2 | GTYWGLGRLLTKCKSFDELLELSQKGDNSAIDMLVGDYIGGMDYSKIGLSASTIASSFGK | 332 |
| | ** ** *** * * * * * * * * * * * * * * * * | |
| | | |
| <i>E.histolytica</i> | IQKVPCGEAKNHYSEADIAQGLMMMVCGSIAHLGFELTKLHHINRIFYTCGFVAHNPVW | 361 |
| <i>E.nuttali</i> | VQKVPCGEAKNHYSEADIAQGLMMMVCGSIAHLGFELTKLHHINRIFYTCGFVAHNPVW | 361 |
| <i>H.sapiens</i> PanK4 | SATA--DQ---EFSKEDMAKSLHMI SNDIGQLACLHARLHSLDRVYFGGFFIRGHPVTM | 341 |
| <i>H.sapiens</i> PanK3 | MIYK--EK-RESVSKEDLARATLVITITNIGSVARMCVNEKINRVVFCNFLRVNTLSM | 331 |
| <i>A.thaliana</i> PanK2 | AISE--NKELDDYRPEDISLSLLRMISYNIGQISYLNALRFGLKRIFFGGFFIRGHAYTM | 390 |
| | * * * * * | |
| | | |
| <i>E.histolytica</i> | EAITTMLTTWSSGSVDANFLEYDGYFGSIGALLLSEYEEE--LM----- | 403 |
| <i>E.nuttali</i> | EAITTMLTTWSSGSVDANFLEYDGYFGSIGALLLSEYEEE--LM----- | 403 |
| <i>H.sapiens</i> PanK4 | RTITYSINFFSKGEVQALFLRHEGYLGAIGAFKGAEQDNP-----NQYSWGENYAG | 393 |
| <i>H.sapiens</i> PanK3 | KLLAYALDYWSKGQLKALFLEHEGYFGAVGALLGLPNFS----- | 370 |
| <i>A.thaliana</i> PanK2 | DTISFAVHFWSKQEMQAMFLRHEGFLGALGAFMSYEKHGLDDLMHQQLVERFPMGAPYTG | 450 |
| | * * * * * * * * * | |

Fig. S4

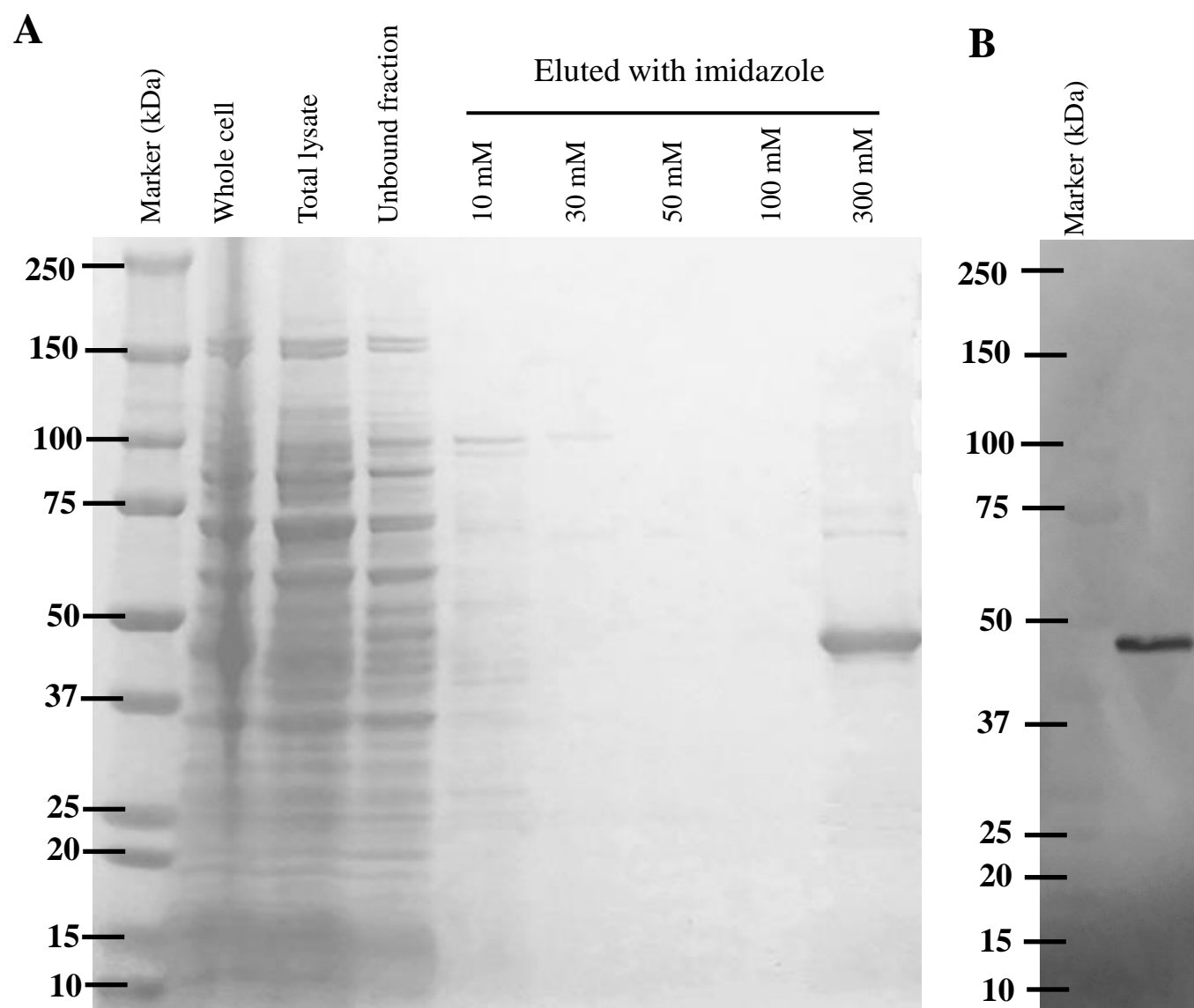
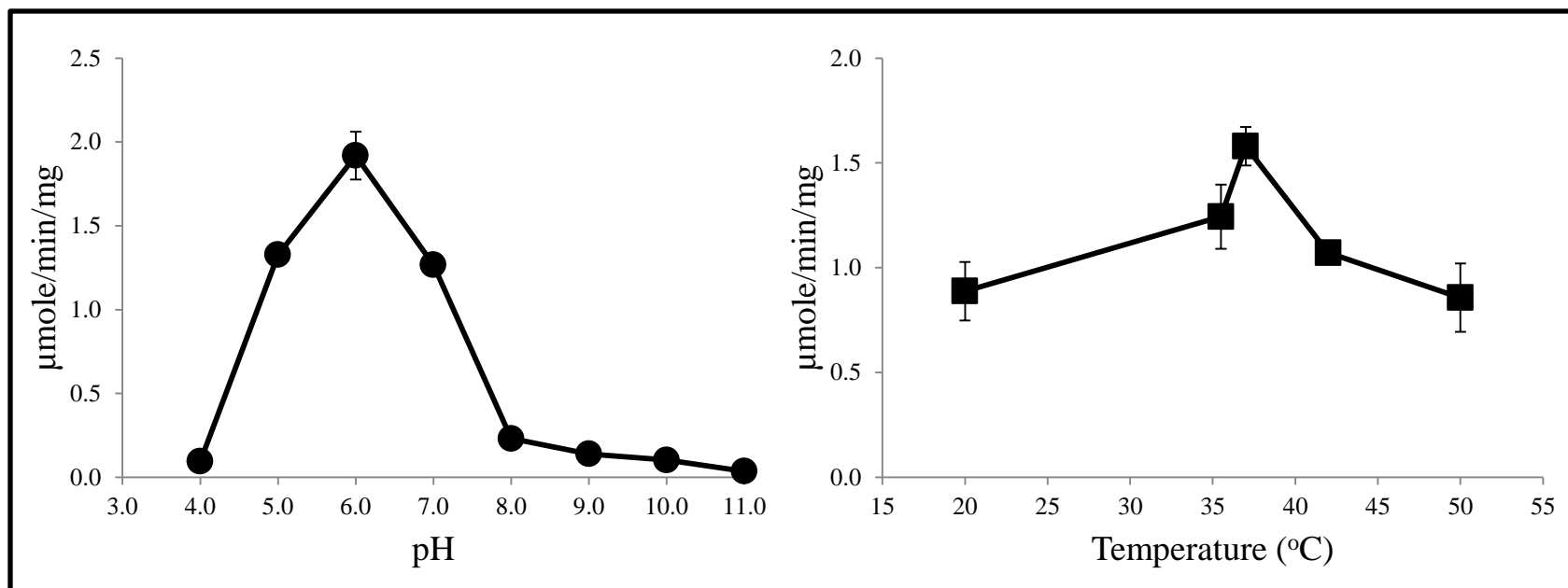
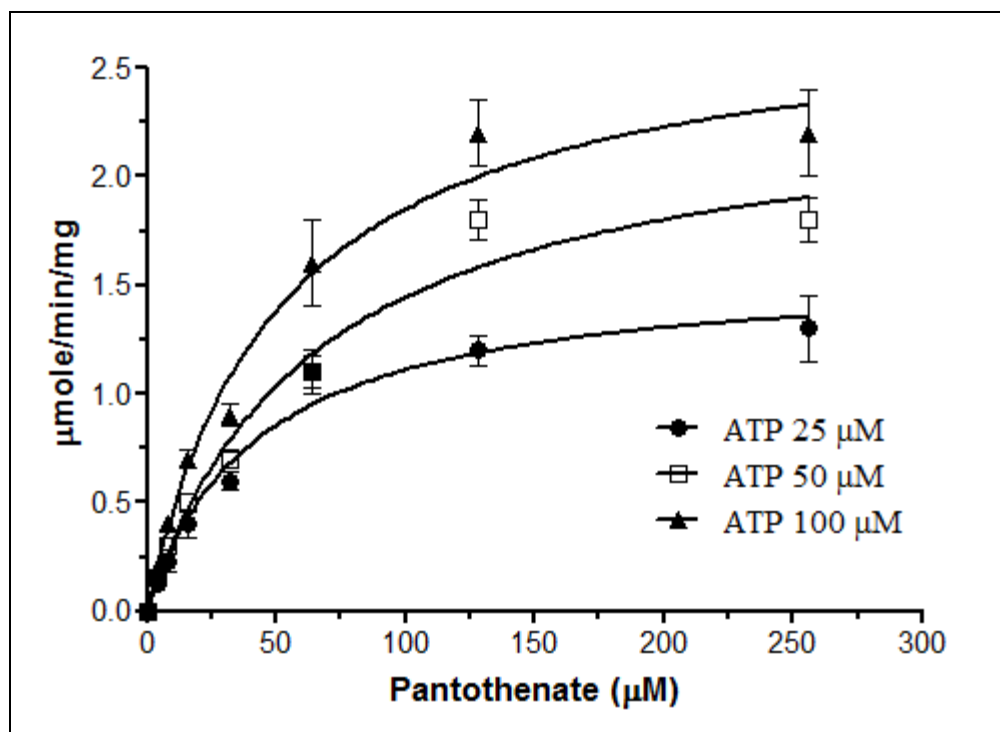


Fig. S5

A



B



C

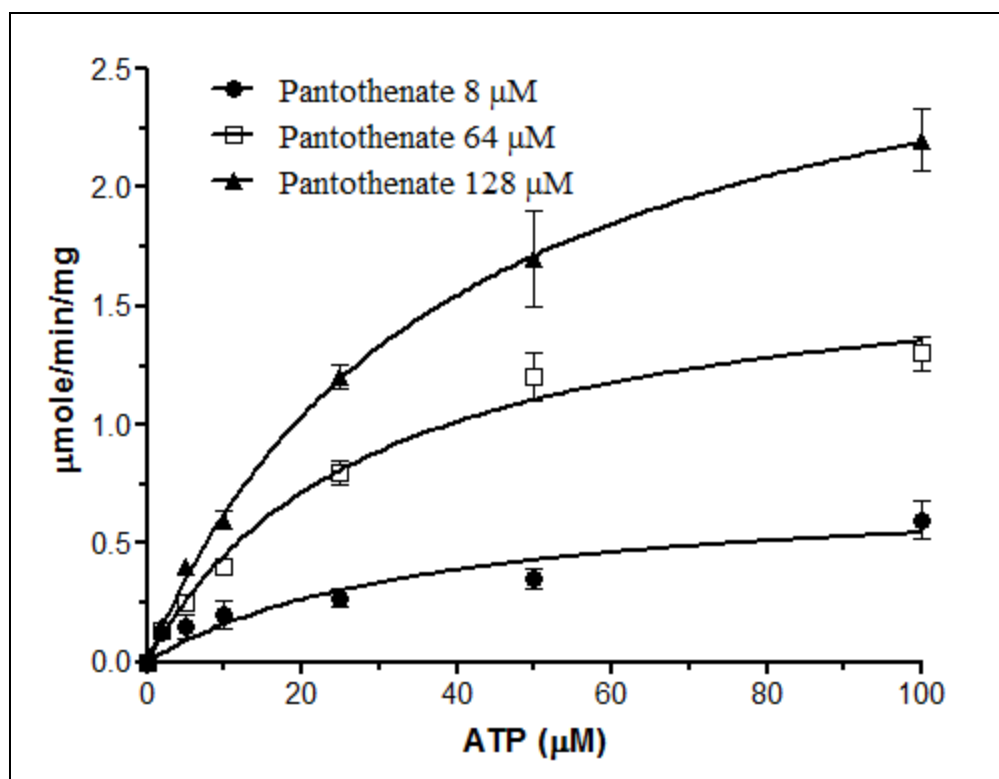


Fig. S6

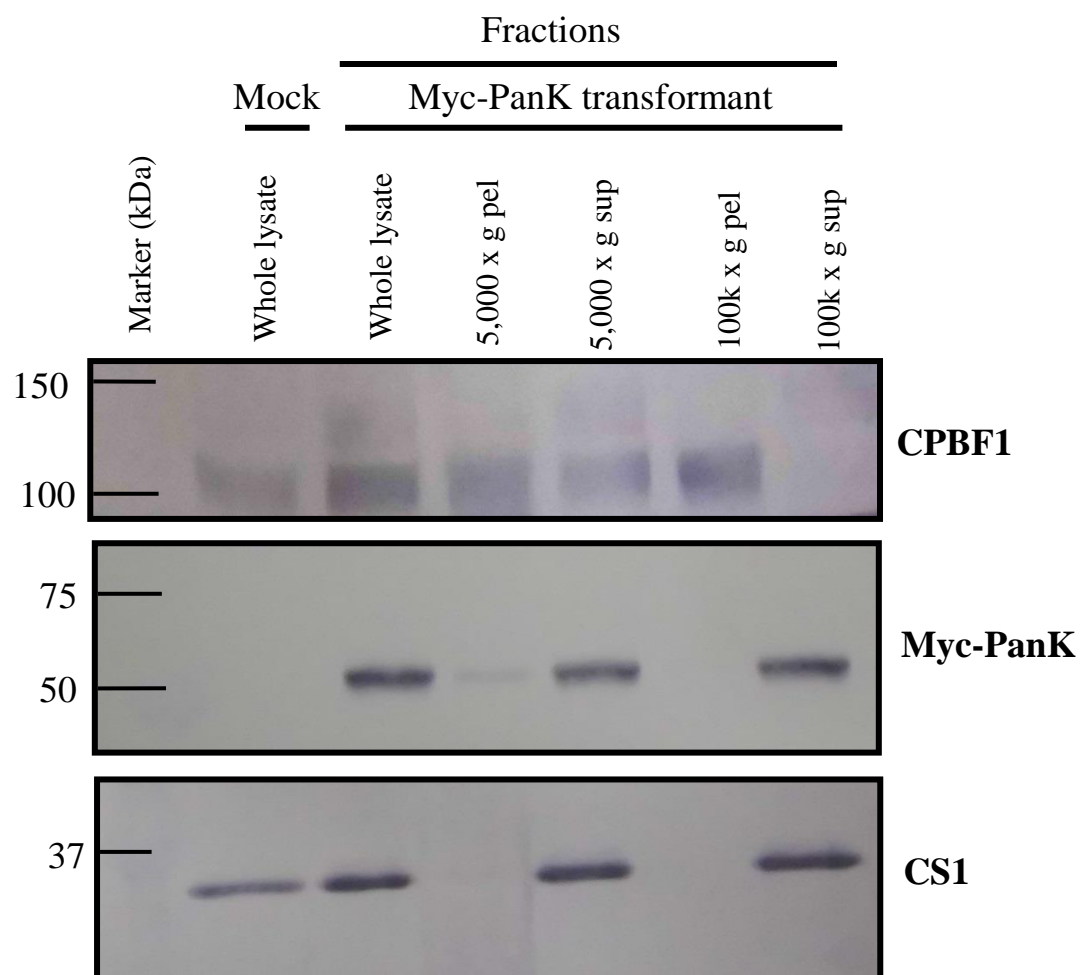
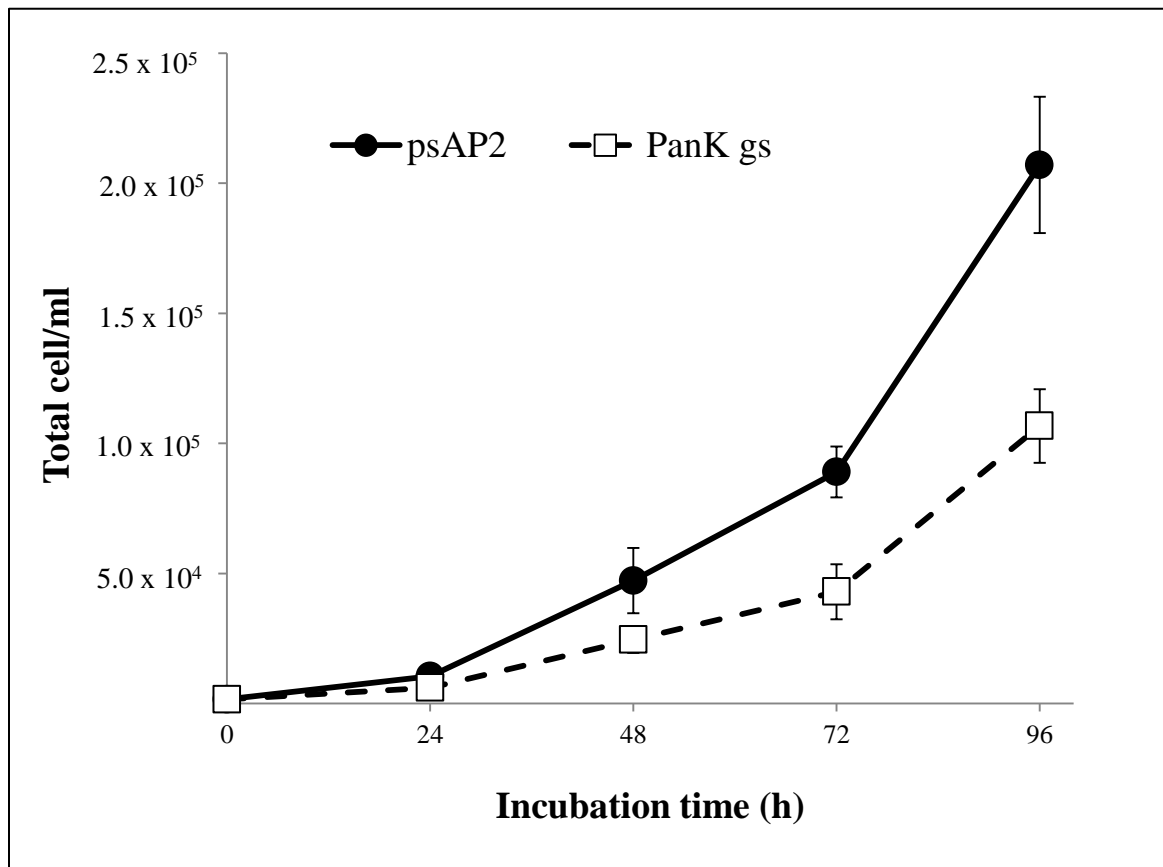


Fig. S7

A



B

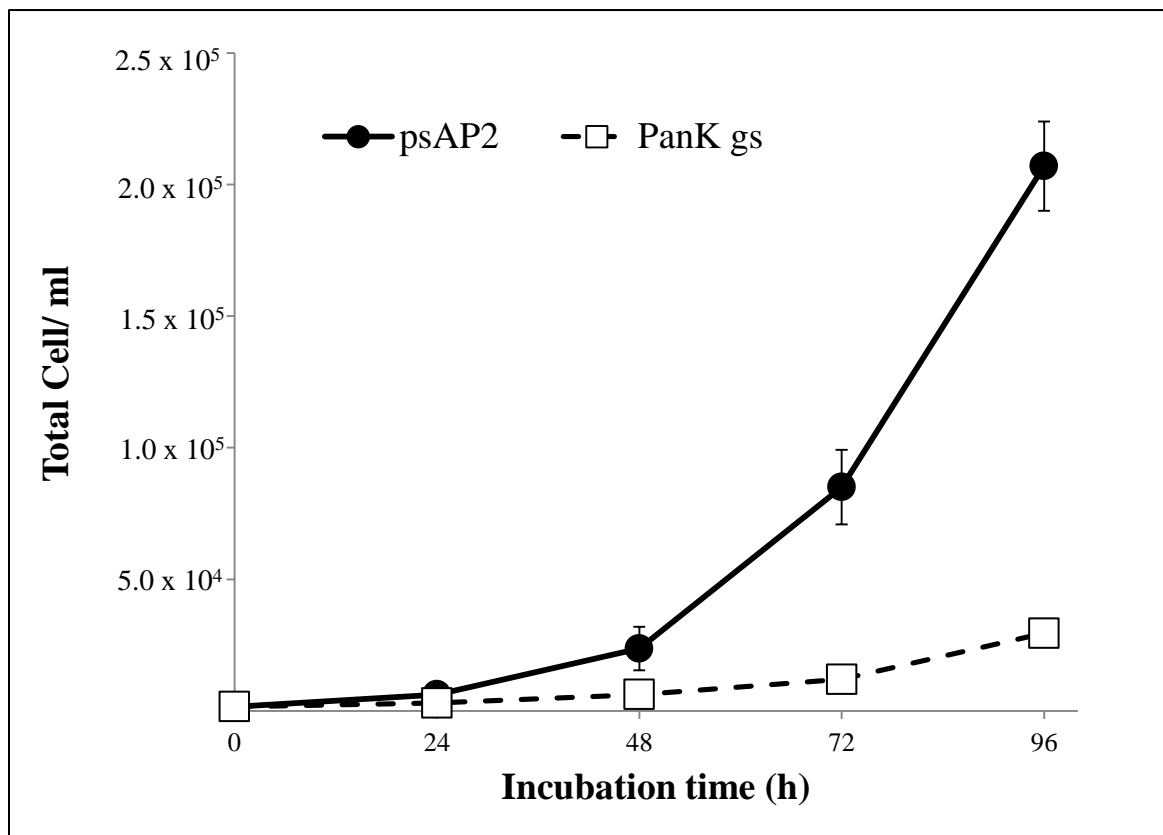


Fig. S8