```
AKT2_[PI]_i-_PI_[PH] -
                                                                           IRS_[pY]_ppi-_PI3K_[SH2]
                                                                                          IR_p-_IRS_[(res)]
                                                                          PHLPP1_p-_AKT2_[(S474)]
                                                                                  PI4K3alpha_p+_PI_[(4)]
                                                                                 PIPK1alpha_p+_PI_[(5)]
                                                                               PP2A_p-
                                                                                                _AKT2_[(T309)]
                                                                           PP5_p-_TSC2_[(Ser939)]
                                                                           PP5_p-_TSC2_[(Ser981)]
PP5_p-_TSC2_[(Thr1462)]
                                                                 PPM1G_p-_EIF4EBP1_[(Ser65)]
PPM1G_p-_EIF4EBP1_[(Thr37)]
PPM1G_p-_EIF4EBP1_[(Thr46)]
                                                                 PPM1G_p-_EIF4EBP1_[(Thr70)]
                                                                                          PTEN_p-_PI_[(3)]
                            RHEB_[switch1DSYDPTIEN]_ppi-
                                                                                         _mTOR_[FATf..2f..3]
                                  RHEB_[switch1]_ppi-_mTOR_[Mheatm..2m..3m..4]
RHEB_[switch2GQDEYSIFPQTYSIDIN]_ppi-_mTOR_[Nheatn..3ton..7]
                                                                                S6K1_p+_IRS_[(hS307)]
                                                                                S6K1_p+_IRS_[(hS527)]
SAC1M1L_p-_PI_[(4)]
                                                                                         SYNJ2_p-_PI_[(5)]
                                               TSC1_[Cterminus]_ppi+_TSC2_[Nterminus]
TSC2_gap_RHEB_[(G)]
                                                        eIF4E_[A001]_ppi+_EIF4EBP1_[A001]
                                                               elF4E_[A001]_ppi-_elF4G_[A002]
                                                                        insulin_[IR]_ppi-_IR_[insulin]
                                                        mTOR_[Raptor]_ppi+_Raptor_[mTOR]
unk_p-_PPM1G_[(AKT2)]
                                                                                          AKT2_[(S474)]-{0}
                                                                                          AKT2 [(T309)]-{0}
                                                                                                   AKT2_[PI]
                                                                                 EIF4EBP1_[(Ser65)]-{0}
EIF4EBP1_[(Thr37)]-{0}
                                                                                 EIF4EBP1_[(Thr46)]-{0}
                                                                                 EIF4EBP1_[(Thr70)]-{0}
                                                               EIF4EBP1_[A001]--eIF4E_[A001]
                                                                                                                   GTP
                                                                                                             INPP4B
                                                                                           IRS_[(hS307)]-{p}
                                                                                           IRS_[(hS527)]-{p}
                                                                                                 IRS_[(res)]-{0}
                                                                                                     IRS_[pY]-
                                                                                                                        -0
                                                                                                 IR_[insulin]--0
                                                                                                            PHLPP1
                                                                                                PI3K_[SH2]--0
                                                                                                       PI4K3alpha
                                                                                                       PIPK1alpha
                                                                                                                  PIPP :
                                                                                                        PI_[(3)]-{0}
                                                                                                        PI_[(4)]-{0}
                                                                                                        PI_[(4)]-{p}
                                                                                                        PI [(5)]-{0}
                                                                                                        PI_[(5)]-{p}
                                                                                                       PI_[PH]-
                                                                                                                         -0
                                                                                                                 PP2A
                                                                                     PPM1G_[(AKT2)]-{0}
                                                                                                                 PTEN
                                                                                               RHEB_[(G)]-{0}
                                                                  RHEB_[switch1DSYDPTIEN]--0
                                                                                        RHEB_[switch1]-
                                               RHEB_[switch2GQDEYSIFPQTYSIDIN]
                                                                         Raptor_[TOS]--S6K1_[TOS]
                                                                Raptor_[mTOR]--mTOR_[Raptor]
                                                                                           S6K1_[(T389)]-{p}
                                                                                                         SAC1M1L
                                                                                                               SYNJ2
                                                                                         -TSC2_[Nterminus]
                                                      TSC1 [Cterminus]-
                                                                                     TSC2_[(Ser1130)]-{0}
                                                                                      TSC2_[(Ser939)]-{0}
TSC2_[(Ser981)]-{0}
                                                                                     TSC2_[(Thr1462)]-{0}
                                                                                                      [EIF4EBP1]
                                                                                                                     [IR]
                                                                                                             [Raptor]
                                                                                                              [eIF4E]
                                                                                                              [eIF4G]
                                                                                                             [mTOR]
                                                                                             eIF4E_[A001]--0
                                                                                            eIF4G_[A002]--0
                                                                                                 insulin_[IR]--0
                                                                                                          mTORC1
                                                                                                          mTORC2 ·
                                                                                   mTOR_[FATf..2f..3]--0
                                                                   mTOR_[Mheatm..2m..3m..4]
                                                                                                                      --0
                                                                          mTOR_[Nheatn..3ton..7]--0
                                                                                    AKT2_[PI]_i+_PI_[PH]
                                                                         AKT2_p+_PPM1G_[(AKT2)] -
AKT2_p+_TSC2_[(Ser1130)] -
                                                                           AKT2_p+_TSC2_[(Ser939)] - AKT2_p+_TSC2_[(Ser981)] -
                                                                         AK12_p+_TSC2_[(Sery81)]
AKT2_p+_TSC2_[(Thr1462)] =
GTP_gef_RHEB_[(G)] =
"IDB4R_p-_PL_[(4)] =
                                                                                        INPP4B_p-
                                                                           IRS_[pY]_ppi+_Pl3K_[SH2] =
IR_p+_IRS_[(res)] =
                                                                              PDK1_p+_AKT2_[(T309)] -
PI3K_p+_PI_[(3)] -
PIPP_p-_PI_[(5)] -
                            RHEB_[switch1DSYDPTIEN]_ppi+_mTOR_[FATf..2f..3]
                                  RHEB_[switch1]_ppi+_mTOR_[Mheatm..2m..3m..4] -
RHEB_[switch2GQDEYSIFPQTYSIDIN]_ppi+_mTOR_[Nheatn..3ton..7] -
Raptor_[TOS]_ppi+_S6K1_[TOS] -
TSC1_[Cterminus]_ppi-_TSC2_[Nterminus] -
                                                                                                             [Output] -
                                                               elF4E_[A001]_ppi+_elF4G_[A002] =
                                                                                          _EIF4EBP1_[A001]
                                                        eIF4E_[A001]_ppi
                                                              mTORC1\_p+\_EIF4EBP1\_[(Thr37)]
                                                               mTORC1_p+_EIF4EBP1_[(Thr46)]
                                                              mTORC1_p+_EIF4EBP1_[(Thr70)]
                                                                        mTORC2_p+_AKT2_[(S474)] -
mTOR_p+_S6K1_[(T389)] -
                                                                                          AKT2_[(S474)]-{p}
                                                                                          AKT2 [(T309)]-{p} -
                                                                                       AKT2_[PI]--PI_[PH]
                                                                                EIF4EBP1_[(Ser65)]-{p} = 
EIF4EBP1_[(Thr37)]-{p} =
                                                                                 EIF4EBP1_[(Thr46)]-{p}
                                                                                EIF4EBP1_[(Thr70)]-{p} =
EIF4EBP1_[A001]--0 =
                                                                                           IRS_{[(hS307)]-\{0\}}
                                                                                           IRS [(hS527)]-{0} -
                                                                                                 IRS_[(res)]-{p} -
                                                                                   IRS_[pY]--PI3K_[SH2] -
                                                                                IR_[insulin]--insulin_[IR] -
                                                                                                      PI_[(3)]-{p} -
                                                                                      PPM1G_[(AKT2)]-{p} -
                                                                                            RHEB_[(G)]-{gtp}
                                   RHEB\_[switch1DSYDPTIEN] -- mTOR\_[FATf..2f..3] -- mTOR\_[FATF..2f.
                                         RHEB_[switch1]--mTOR_[Mheatm..2m..3m..4] -
       RHEB_[switch2GQDEYSIFPQTYSIDIN]--mTOR_[Nheatn..3ton..7]
                                                                                            Raptor_[TOS]--0 -
                                                                                         Raptor_[mTOR]--0 -
S6K1_[(T389)]-{0} -
                                                                                              S6K1 [TOS]--0-
                                                                                    TSC1_[Cterminus]--0 -
                                                                                    TSC2_[(Ser1130)]-{p} -
                                                                                       TSC2_[(Ser939)]-{p} -
                                                                                       TSC2_[(Ser981)]-{p} -
                                                                                     TSC2_[(Thr1462)]-{p} -
                                                                                    TSC2_[Nterminus]-
                                                                                                    [activatedIR] -
                                                                                                 [activatedPI3K] -
                                                                      [insulin] =
eIF4E_[A001]—-eIF4G_[A002] =
                                                                                         mTOR_[Raptor]--0
                                                                                                                               t000 t001
```