```
IRS_[pY]_ppi-_Pl3K_[SH2]
IR_p-_IRS_[(res)]
                                              PHLPP1_p-_AKT2_[(S474)]
                                                  PI4K3alpha_p+_PI_[(4)]
                                                  PIPK1alpha_p+_PI_[(5)]
                                                 PP2A_p-_AKT2_[(T309)]
                                              PP5_p-_TSC2_[(Ser1130)]
PP5_p-_TSC2_[(Ser939)]
                                        PP5_p-_TSC2_[(Ser98])
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)]
                                                       _mTOR_[FATf..2f..3]
                 RHEB_[switch1DSYDPTIEN]_ppi-
                     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)]
                             eIF4E_[A001]_ppi+_EIF4EBP1_[A001]
                                       eIF4E_[A001]_ppi-_eIF4G_[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
                                                                PI_[(3)]-{0}
                                                                PI_[(4)]-{0}
                                                                PI_[(4)]-{p}
                                                                PI_[(5)]-{0}
                                                                PI_[(5)]-{p}
                                                                PI_[PH]-
                                                                           -0
                                                                      PP2A
                                                     PPM1G_[(AKT2)]-{0}
                                                           RHEB_[(G)]-{0}
                                         RHEB_[switch1DSYDPTIEN]--0
                                                       RHEB_[switch1]--
                             RHEB\_[switch 2GQDEYSIFPQTYSIDIN] - \\
                                                                           -0
                                             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]
                                                                         __n ·
                                              mTOR_[Nheatn..3ton..7]--0
                                                            \mathsf{IRS}\_[(\mathsf{res})] – \{p\}
                                                        IR_p+_IRS_[(res)]
                                                              [activatedIR]
                                                 IR_[insulin]--insulin_[IR]
                                             insulin_[IR]_ppi+_IR_[insulin]
                                              AKT2_[PI]_i+_PI_[PH] -
AKT2_p+_PPM1G_[(AKT2)] -
                                             AKT2_p+_TSC2_[(Ser1130)]
                                              AKT2_p+_TSC2_[(Ser939)] -
AKT2_p+_TSC2_[(Ser939)] -
AKT2_p+_TSC2_[(Ser981)] -
AKT2_p+_TSC2_[(Thr1462)] -
GTP_gef_RHEB_[(G)] -
                                                      INPP4B_p-_PI_[(4)]
                                              IRS_[pY]_ppi+_PI3K_[SH2] -
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] -
                                       eIF4E_[A001]_ppi+_eIF4G_[A002]
                                   eIF4E [A001] ppi-
                                                        EIF4EBP1 [A001]
                                       mTORC1_p+_EIF4EBP1_[(Ser65)] -
                                       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]-
                                                        IRS_{(hS307)}-\{0\}
                                                        IRS_[(hS527)]-{0} -
                                                   IRS_[pY]--PI3K_[SH2] -
                                                                PI [(3)]-{p} -
                                                     PPM1G_[(AKT2)]-{p}
                                                        RHEB_[(G)]-{gtp} -
-mTOR_[FATf..2f..3] -
                      RHEB_[switch1DSYDPTIEN]-
                         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]-
                                                            [activatedPI3K] -
                                           [insulin] - eIF4E_[A001]--eIF4G_[A002] -
                                                       mTOR_[Raptor]--0
                                                                              t000 t001 t002 t003 t004 t005
```