

{BerekelyMadonna Program used for Figure 8, with **correct parameters**}

METHOD STIFF

STARTTIME = 0  
STOPTIME=4000  
DTMIN=1.0e-6  
DTMAX=1.0  
TOLERANCE=0.01

d/dt(Chk1P) = v1-vm1  
d/dt(Rad3) = v4-v5  
d/dt(p53) = v10-v11  
d/dt(preMPF) = v14+vm9-v9  
d/dt(MPF) = v9+vm23-(vm9+v23+v15)  
d/dt(p21) = v20+v21+vm23-(v22+v23)  
d/dt(p21MPF) = v23-vm23  
d/dt(iCdc25) = vm7+vm3p+vin-(v7+v2p)  
d/dt(iCdc25Ps216) = v2p+vm18-(v18+v3p)  
d/dt(iCdc25Ps2161433) = v3p-(vm3p+vex)  
d/dt(aCdc25) = v7+vm2-(vm7+v2)  
d/dt(aCdc25Ps216) = v2+v18-(vm2+vm18)  
d/dt(p1433) = v6+v13+vm3p-(v3p+v12)  
d/dt(Wee1) = v16+vm8-v8  
d/dt(Wee1P) = v8-(vm8+v17)

Chk1 = totalChk1 - Chk1P

v1 = k1\*Chk1\*Rad3

vm1 = km1\*Chk1P

v2 = k2\*Chk1P\*aCdc25 + Kctak1\*aCdc25

vm2 = km2\*aCdc25Ps216

v2p = k2p\*Chk1P\*iCdc25 + kctak1p\*iCdc25

v3p = k3p\*iCdc25Ps216\*p1433

vm3p = km3p\*iCdc25Ps2161433

v4 = k4

v5 = k5\*Rad3

v6 = k6\*p53

v7 = k7\*MPF\*iCdc25 + kPlk1\*iCdc25

vm7 = km7\*aCdc25

v8 = k8\*MPF\*Wee1 + k8p\*Wee1

vm8 = km8\*Wee1P

v9 = k9\*(aCdc25 + aCdc25Ps216)\*preMPF + k9p\*preMPF

vm9 = km9\*MPF\*Wee1

v10 = k10

v11 = k11\*p53

v12 = k12\*p1433

v13 = k13

v14 = k14/(1.0+k14p\*p53)

v15 = k15\*MPF\*MPF

v16 = k16

v17 = k17\*Wee1P

v18 = k18\*MPF\*iCdc25Ps216 + kPlk1p\*iCdc25Ps216

vm18 = km18\*aCdc25Ps216

v20 = k20\*p53

v21 = k21

v22 = k22\*p21

v23 = k23\*MPF\*p21

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vm23 = km23*p21MPF

vin = 1.0e-5
vex = kex*(iCdc25Ps2161433)

init Chk1P = 1.0e-6
init iCdc25 = 1.0e-6
init aCdc25 = 1.0e-6
init preMPF = 1.0e-6
init MPF = 1.0e-8
init iCdc25Ps216 = 2.0e-5
init Wee1 = 1.0e-3
init iCdc25Ps2161433 = 0.03
init p1433 = 2.0
init Rad3 = 0.0
init p53 = 0.0
init p21 = 0.0
init p21MPF = 0.0
init aCdc25Ps216 = 0.0
init Wee1P = 0.0

totalChk1 = 1.0
k1=1.0
k5=1.0
k7=1.0
k18=1.0
k9=1.0
k11=1.0
k13=1.0
km8=0.01
km9=1.0
km23=1.0
k14p=1.0
k8=0.1
k12=0.1
k22=0.1
k23=0.1
k20=0.1
k6=0.01
k17=0.1
k2=0.1
k2p=0.1
km2=0.01
km7=0.01
km18=0.01
k21=0.01
k4=0.0
k10=0.0
kPlk1=0.0
kPlk1p=0.0
kctak1=0.0
kctak1p=0.0
k8p=0.0
k9p=0.0
km3p=0.0
km1=10.0
k14=5.0e-4
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k15=1.0e-2  
k16=2.0e-4  
k3p=100.0  
kex = 1.0