

Table S1

Response¹		
Rate constant	Budding	DNA replication
k_1	Medium positive	Medium positive
k_2	–	High positive
k_3	Low positive	–
k_4	–	Medium positive
k_5	High negative	Very High negative
k_6	Very High positive	Very High positive
k_7	Medium positive	High positive
k_8	Medium negative	High negative
k_9	Medium negative	Very High positive
k_{10}	Low negative	–
k_{11}	–	Medium negative
k_{12}	Low negative	–
k_{13}	–	Medium negative
k_{14}	Low positive	Medium positive
k_{15}	Low negative	Medium negative
k_{16}	Low negative	Medium negative
k_{17}	Low positive	Medium positive
k_{18}	Low positive	High negative
k_{19}	Low positive	Medium positive
k_{20}	Low negative	Medium negative
k_{21}	Low negative	Medium negative
k_{22}	–	Medium positive
k_{25}	Medium positive	–
k_{29}	–	Medium negative
k_{35}	–	High positive
k_{42}	Medium negative	High negative
k_{43}	Medium positive	High positive
k_{44}	Medium positive	High positive
k_{45}	Medium negative	Medium negative
k_{46}	Low negative	Medium positive
k_{48}	–	Medium positive
k_{49}	Low positive	Medium positive
k_{53}	Medium positive	–

Response¹		
Initial concentration	Budding	DNA replication
Cdk1Cln3 _{nuc}	Very High positive	Very High positive
Cdk1Cln3-Far1P _{nuc}	Very High positive	Very High positive
Cdk1Cln3-Far1 _{nuc}	Very High positive	Very High positive
Cln3 _{nuc}	Very High positive	Very High positive
Cln3 _{cyt}	High positive	Very High positive
<i>mRNA</i> Cln1,2 _{nuc}	High positive	Very High positive
<i>mRNA</i> Cln1,2 _{cyt}	High positive	Very High positive
Cln1,2 _{cyt}	High positive	Very High positive
Cdk1Cln1,2 _{nuc}	High positive	Very High positive
Cdk1Cln1,2 _{cyt}	High positive	Very High positive
<i>mRNA</i> Clb5,6 _{cyt}	–	High positive
<i>mRNA</i> Clb5,6 _{nuc}	–	High positive
Clb5,6 _{cyt}	–	High positive
Cdk1Clb5,6 _{cyt}	–	High positive
Sic1 _{cyt}	–	High positive
Cdk1Clb5,6-Sic1 _{cyt}	–	High positive
Cdk1-Clb5,6 _{nuc}	–	Medium positive
Cdk1Clb5,6-Sic1 _{nuc}	–	Medium positive
Cdk1Clb5,6-Sic1P _{nuc}	–	Medium positive
Cdk1 _{cyt}	–	Medium positive
Cdk1 _{nuc}	Low positive	Medium positive
SBF/MBF _{nuc}	Low positive	Medium positive
SBF/MBF-Whi5 _{nuc}	High negative	Very High positive
Far1 _{cyt}	High negative	Very High negative
Far1 _{nuc}	High negative	Very High negative
Whi5 _{nuc}	High negative	Medium negative
Whi5 _{cyt}	–	Medium negative

¹ Symbol – means negligible effect.