

**Table S4: Knockout predictions and results.**

Condition	Cycles ( $M=2$ )	Cycles ( $M=16$ )	Cycles (Expt)	Arrest (IR; predicted)
CycD <sup>-/-</sup>	No	Yes	Yes (14)	Arrests normally
CycE <sup>-/-</sup>	Yes	Yes	Yes (15)	Arrests normally
<b>CycA<sup>-/-</sup></b>	<b>Yes</b>	<b>Yes</b>	<b>No (20)</b>	Arrests normally
CycB <sup>-/-</sup>	No	No	No (21)	--
CKI <sup>-/-</sup>	Yes	Yes	Yes (22)	Arrests normally
Cdc20 <sup>-/-</sup>	No	No	No (23)	--
Cdh1 <sup>-/-</sup>	Yes	Yes	Yes (18)	Continues cycling (18)
Wee1 <sup>-/-</sup>	Yes	Yes	No* (24)	Arrests normally
Cdc25 <sup>-/-</sup>	No	No	No (25)	--
TFE <sup>-/-</sup>	No	No	No (26)	--
TFB <sup>-/-</sup>	No	No	--	--
APC <sup>-/-</sup>	No	No	No (27)	--