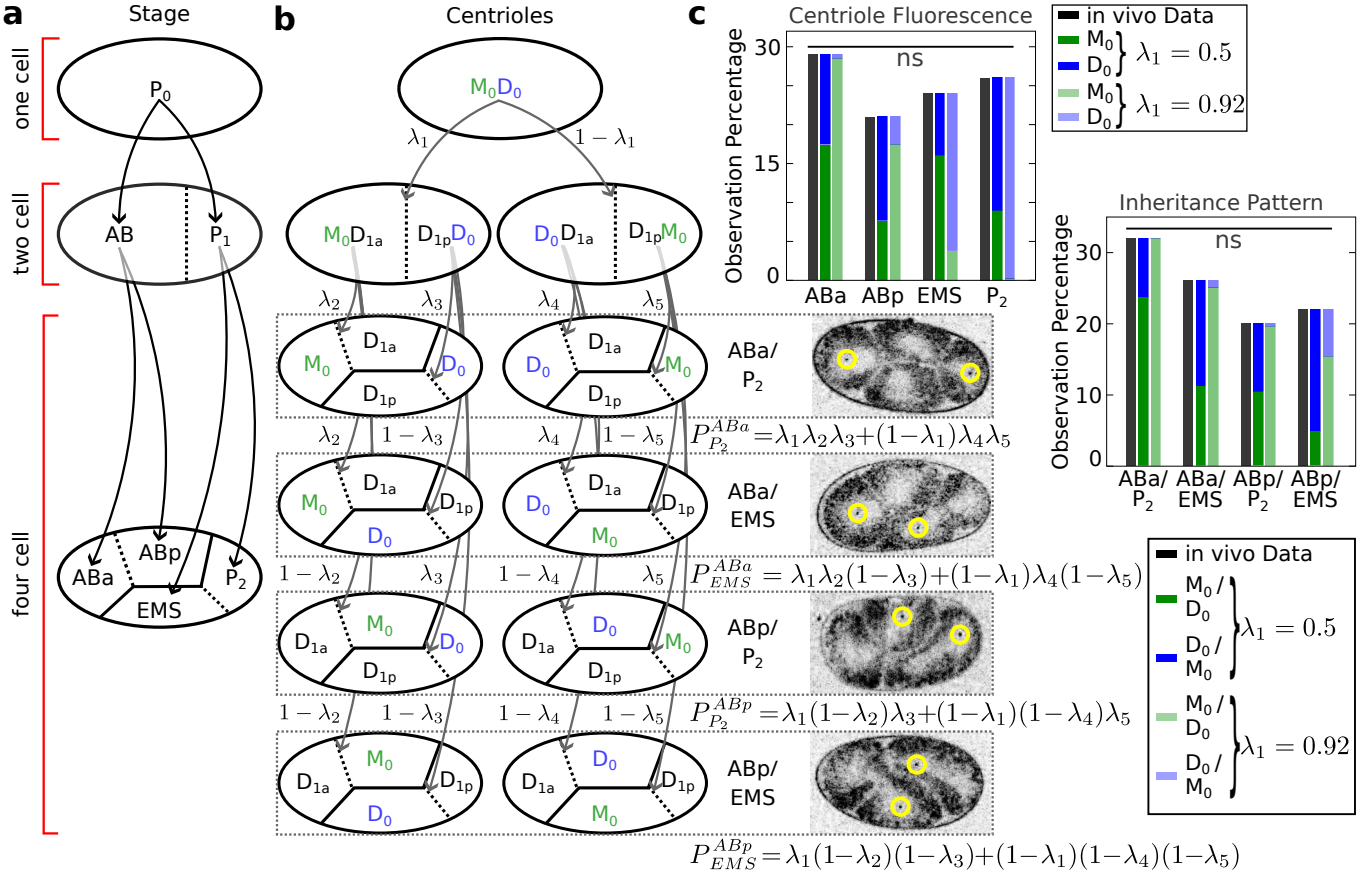
a
Stage
one cell
two cell
four cell
P0
AB
P1
ABa
ABp
EMS
P2
b
Centrioles
M0D0
λ1
1 − λ1
M0D1a
D1pD0
D0D1a
D1pM0
λ2
λ3
λ4
λ5
1 − λ3
1 − λ5
1 − λ2
1 − λ4
D1a
D1p
M0
D0
ABa/ P2
ABa/ EMS
ABp/ P2
ABp/ EMS
$P_{P_2}^{ABa} = \lambda_1\lambda_2\lambda_3 + (1-\lambda_1)\lambda_4\lambda_5$
$P_{EMS}^{ABa} = \lambda_1\lambda_2(1-\lambda_3) + (1-\lambda_1)\lambda_4(1-\lambda_5)$
$P_{P_2}^{ABp} = \lambda_1(1-\lambda_2)\lambda_3 + (1-\lambda_1)(1-\lambda_4)\lambda_5$
$P_{EMS}^{ABp} = \lambda_1(1-\lambda_2)(1-\lambda_3) + (1-\lambda_1)(1-\lambda_4)(1-\lambda_5)$
c
Centriole Fluorescence
Observation Percentage
30
15
0
ns
ABa
ABp
EMS
P2
in vivo Data
M0
D0
$\lambda_1 = 0.5$
M0
D0
$\lambda_1 = 0.92$
Inheritance Pattern
Observation Percentage
30
20
10
0
ns
ABa/ P2
ABa/ EMS
ABp/ P2
ABp/ EMS
in vivo Data
M0 / D0
D0 / M0
$\lambda_1 = 0.5$
M0 / D0
D0 / M0
$\lambda_1 = 0.92$