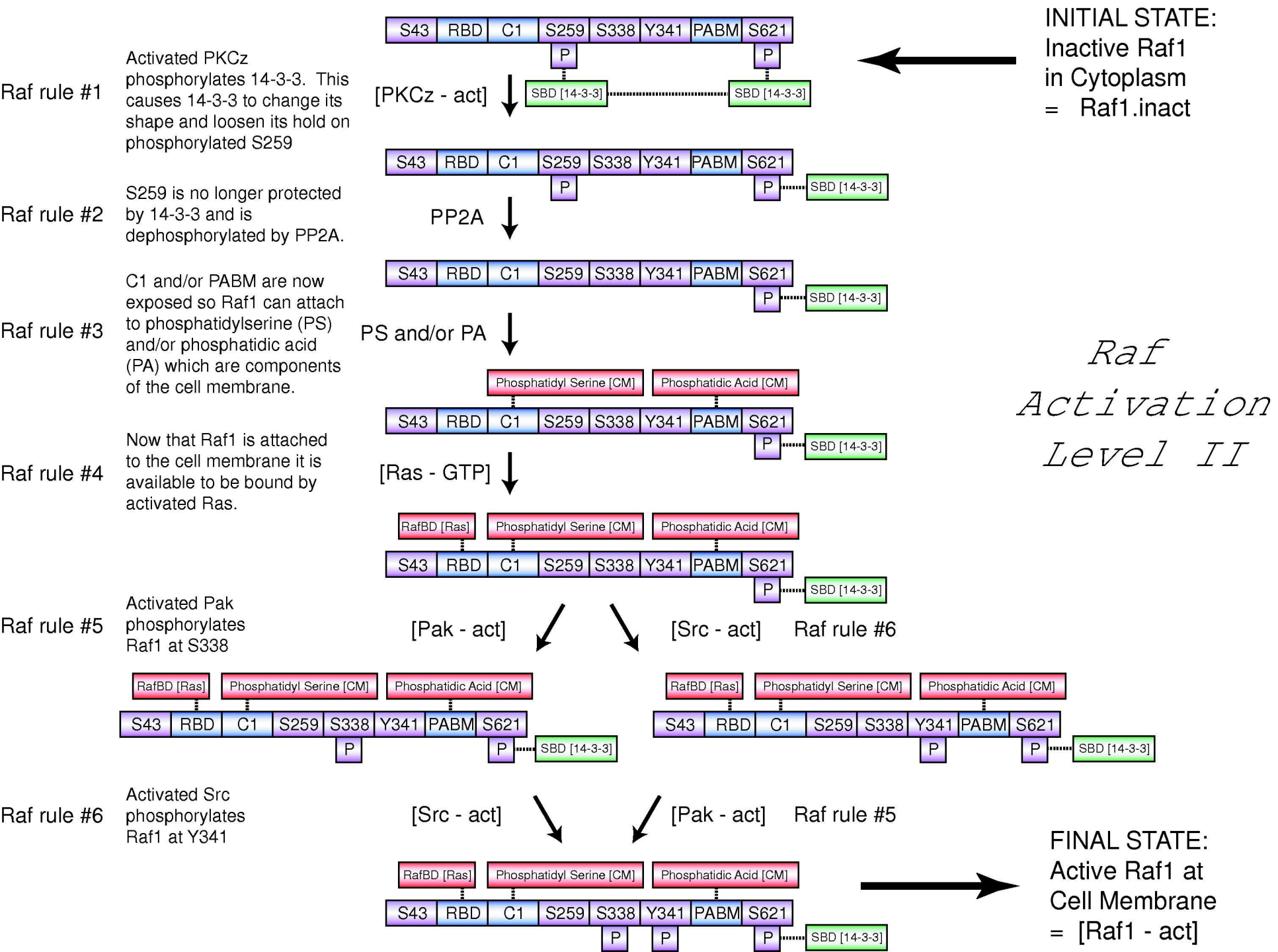
INITIAL STATE:
Inactive Raf1
in Cytoplasm
= Raf1.inact
Raf rule #1
Activated PKCz phosphorylates 14-3-3. This causes 14-3-3 to change its shape and loosen its hold on phosphorylated S259
[PKCz - act]
Raf rule #2
S259 is no longer protected by 14-3-3 and is dephosphorylated by PP2A.
PP2A
Raf rule #3
C1 and/or PABM are now exposed so Raf1 can attach to phosphatidylserine (PS) and/or phosphatidic acid (PA) which are components of the cell membrane.
PS and/or PA
Raf rule #4
Now that Raf1 is attached to the cell membrane it is available to be bound by activated Ras.
[Ras - GTP]
Raf rule #5
Activated Pak phosphorylates Raf1 at S338
[Pak - act]
[Src - act]
Raf rule #6
Raf rule #6
Activated Src phosphorylates Raf1 at Y341
[Src - act]
[Pak - act]
Raf rule #5
S43
RBD
C1
S259
S338
Y341
PABM
S621
P
SBD [14-3-3]
RafBD [Ras]
Phosphatidyl Serine [CM]
Phosphatidic Acid [CM]
FINAL STATE:
Active Raf1 at
Cell Membrane
= [Raf1 - act]
Raf
Activation
Level II