ACE2 🡪 Two Input

* In: 2, FHK2 & ZAP1 (activation from both that self-regulate)
  + FKH2: steep, down regulation; fits the data well, too
  + ZAP1: steep, linear up-regulation; fits the data points well
* Out: 0
* No dynamics & the data points are wide
* Fit: good/well

AFT2 🡪 Self-Regulation + Others

* In: 2
* Out: 1
* Dynamics is slight with data points wide
* Fit: decent/models points well

CIN5 🡪 Self-Regulation + Others

* In: 4
* Out: 6
* Dynamics is slight with data points wide
* Fit: magnitude is great due to trend in data points; fits well

FHL1 🡪 No Input

* In: 0
* Out: 5
* Higher dynamics and data points were not wide spread
* Fit: decent, not the best at T15

FKH2 🡪 Self-Regulation + Others

* In: 2
* Out: 3
* Negative dynamics with tight points at T15 and T60
* Fit: poor for 15 and 60, but since those times are tight it’s ok

GLN3 🡪 Self-Regulation + Others

* In: 2
* Out: 2
* Dynamics see slight dip before increasing as time goes on; data points are wide
* Fit: fits the average of the data points well

HAP5 🡪 One Input

* In: 1, SWI4 (repressor)
  + Negative dynamics with decent fit, but not the best; good for 30 & 60 but poor for 15 (repression cues)
* Out: 0
* Dynamics are only slightly negative
* Fit: poor and doesn’t fit the data well

HMO1 🡪 One Input

* In: 1, FHL1 (activator)
  + Slight up-regulation; fit is good for 30 & 60 but should be a bit lower for 15 (activation cues)
* Out: 0
* Dynamics are high
* Fit: decent but strays from a few of the data points

HOT1 🡪 Two Input

* In: 2, FHL1 & SKN7 (repression cues both)
  + FHL1: slight up-regulation with a decent fit for 30 & 60
  + SKN7: high up-regulation with decent fit of the model
* Out: 0
* Dynamics are slight and decrease; data points are wide for T15 and T60
* Fit: decent, but not great

MAL33 🡪 Two Inputs

* In: 2, MBP1 & SKO1 (repression then activation respectively)
  + MBP1: slight up-regulation; fits data well
  + SKO1: slight up-regulation, fits the data well at the averages
* Out: 2
* Dynamics are high and great, however the data points are wild for T30 and T60
* Fit: poor for the data points are wide

MBP1 🡪 Self-Regulating with No Other Inputs

* In: 1
* Out: 3
* Dynamics are slightly positive and the data points are wide (last time point)
* Fit: good

MGA2 🡪 Two Inputs

* In: 2, GLN3 & SMP1 (activation and repression)
  + GLN3: initial decrease, but then up-regulation; fits the data well
  + SMP1: slight down regulation; fits the data points well
* Out: 0
* Dynamics increase while data points are not too bad
* Fit: decent; poor fit at T15 and T30

MSS11 🡪 Three Inputs

* In: 3 🡪 all activation
* Out: 0
* Great negative dynamics and the data points are evenly spaced
* Fit: good for all time points

PHD1 🡪 Self-Regulation + Others

* In: 7
* Out: 5
* Dynamics are slight and the data points are close together
* Fit: good, but does not hit the middle of the data points

SKN7 🡪 Self-Regulating with No Other Inputs

* In: 1
* Out: 7
* Dynamics increasing, but T15 data points are wide
* Fit: well and meets the average of them

SKO1 🡪 No Input

* In: 0
* Out: 4
* Data points are wide, especially 15 and 30, dynamics are slightly increasing
* Fit: well for the data points, especially tighter data points for T15 and T30

SMP1 🡪 Self-Regulation + Others

* In: 4
* Out: 3
* Decreasing slightly and fits the data points, which tend to be tight
* Fit: pretty well and hits major data points

SWI4 🡪 Self-Regulation + Others

* In: 6
* Out: 3
* Slightly negative dynamics; data points are spread out on T60
* Fit: well for 30 and 60, but pooly for T15

SWI6 🡪 No Input

* In: 0
* Out: 2
* Dynamics are slightly negative and the data points are evenly spaced, except last point for T30
* Fit: decent, but data points for T15 and T30 are not great fits

YAP6 🡪 Self-Regulation + Others

* In: 7
* Out: 3
* Negative dynamics and the data points are close
* Fit: well, but a little high for T15, but fine for the other times

ZAP1 🡪 Self-Regulating with No Other Inputs

* In: 1
* Out: 2
* Dynamics are great and large
* Fit: decent, but each time point is different with how the model fits the data

Compile list for final presentation

General conclusion:

* The number of edges a gene has does not mean it has a better or worse fit
* Those with no outputs may have good fits 🡪 but outputs shouldn’t affect the production rate or itself unless self-regulating
* Fits for those with no inputs are decent, but not as tight to the trends of the data
* With the exception of ACE2 & MSS11, there appeared to be poorer fits for the genes with no outputs
* Self-Regulating with no other inputs seems to fit the simulated data pretty well, with exception to the wide data points seen in ZAP1 (still fits those, however)
* Self-Regulation + Others seems to have varying results that would not allow you to get an understanding in how the model with draw the curve
  + It tends to do a decent job in modeling the data
* No classification: MAL33 🡪 poor b/c the data points are wide

Overall 🡪 not great, but when breaking them up into these categories you find a pattern

Is it ok to find a pattern? I don’t know, but I guess we’ll see…