Question RCMD

(Almeida 2020/21)

Three genes, *A, B* and *C*, interact in a given developmental pathway. Gene *A* encodes a transcription factor (A). To investigate how the three genes interact, you make the construct represented in figure 1, in which *A* with its own promoter is fused to the glucocorticoid receptor gene, so as to express a chimeric protein A:GR. This construct fully complemented a null *aa* mutant.

Figure 1

You then examine the expression (mRNA levels) of *B* and *C* in transgenic *aa* plants carrying the construct, in the presence (+) or absence of Dexamethasone (DEX) and/or Cycloheximide (CYC). The results of the experiment are shown in figure 2.

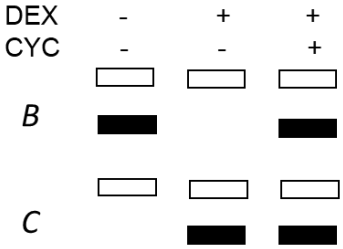

Figure 2

Using the symbols arrow () for positive interaction and rotated T () for negative interaction, draw a pathway with the three genes. In your drawing, arrows or rotated Ts should be represented with solid lines to indicate direct interactions or dashed lines to indicate indirect interactions. **Explain** your answer.