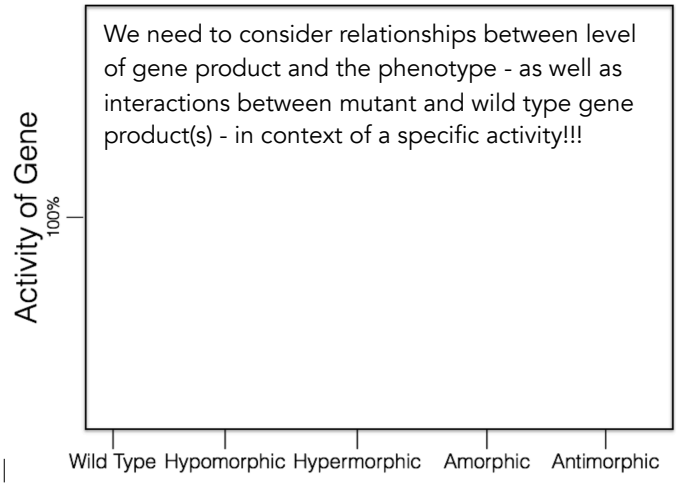
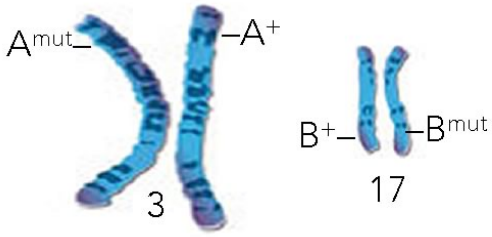
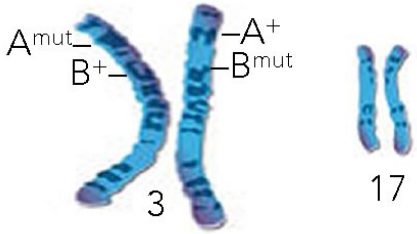
coreBio II - genetics: Friday. 16 March 2018

Past and current questions? - hand in





estimate ratio of phenotypes if gene linked (10% rather than 50% crossover (unlinked)



In dihybrid crosses, which genes (alleles) will appear linked?

Explain how you would you set up those crosses?

Describe a strategy that would enable you to identify the order of the genes along the chromosome?

MUTANT	centimorgan	WILD TYPE
Short aristae	0	Long aristae
Black body	48.5	Gray body
Cinnabar eyes	57.5	Red eyes
Vestigial wings	65.5	Normal wings
Brown eyes	104.5	Red eyes

the parents (F_o) were AB and ab

what gametes can they produce?

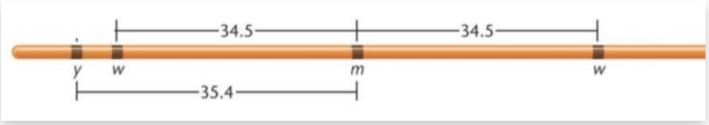
observed
AB : aB : Ab : aa
981 : 72 : 86 : 964
552 : 394 : 394 : 131
expected

how close (on the chromosome) are A and B genes?

the parents (F_o) were AB and ab

observed
AB : aB : Ab : aa
981 : 72 : 86 : 964
552 : 394 : 394 : 131
expected

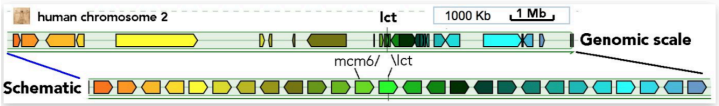
add the number of aB and Ab organisms and divide by the total number of organisms, in our case this results in 72 + 86 / 2103 = 0.0751. This indicates a recombination frequency of ~7.5%



How could you determine if the y gene is located near to or far from the w gene?

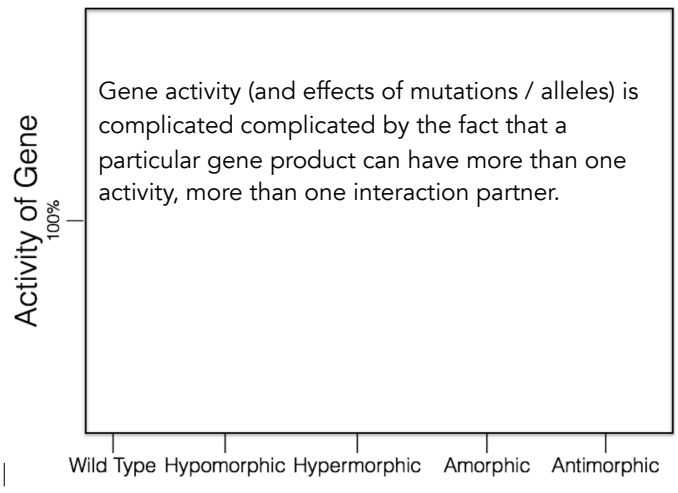
What is the recombination frequency between y and w genes?

Looking at linkage

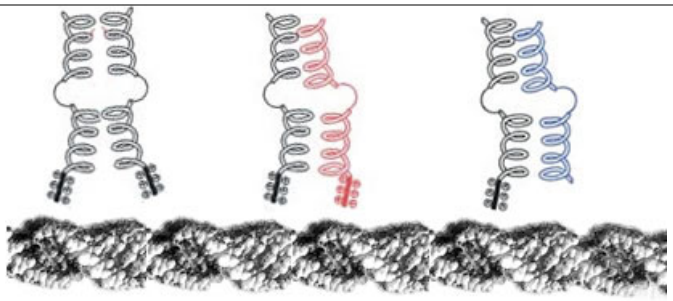


ARHGAP11B Htt

switch computers



complicated by the fact that a particular gene product can have more than one activity, more than one interaction partner.



how does anti-morphic mutation influence system, level of functional protein