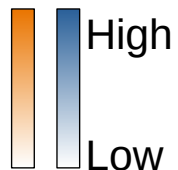


CO pattern

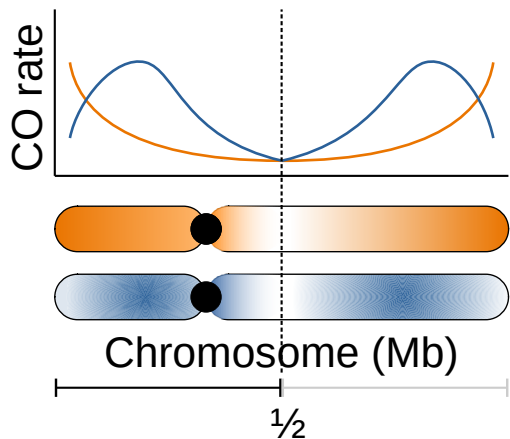
— Distal
— Sub-distal

CO rate
(cM/Mb)



● Centromere

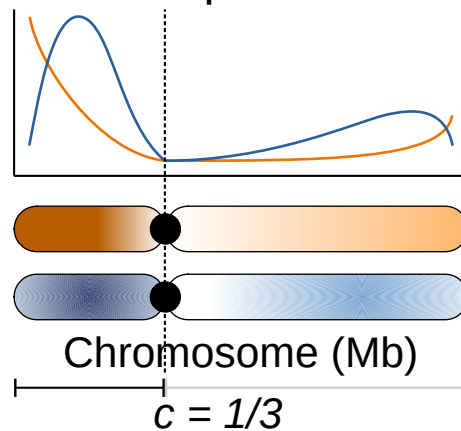
(1) 'telomere'



$$d(\frac{1}{2}) = d(1) - d(\frac{1}{2})$$

$\frac{1}{2}$ chromosome $\sim \frac{1}{2}$ COs

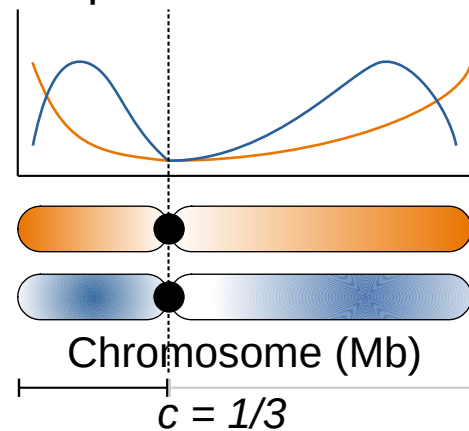
(2) 'telo. + centromere +
1 CO per arm'



$$d(c) = 50 + a.c$$

$\frac{1}{3}$ chromosome $\sim 1\text{CO} + \frac{1}{3}$
excess COs

(3) 'telo. + centromere +
1 CO per chromosome'



$$d(c) = 50c + a.c$$

$\frac{1}{3}$ chromosome $\sim \frac{1}{3}$ COs