



We defined the ancestral allele invoking at most one substitution event to explain the observation on the three species

- If  $X = Y$  or  $X = Z \rightarrow$  ancestral =  $X$  (i.e. no substitution)
- If  $Y = Z$  and  $Y \neq X \rightarrow$  ancestral =  $Y$  (i.e. substitution  $Y \rightarrow X$ )
- Else  $\rightarrow$  ancestral = **Undefined**

