



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**

