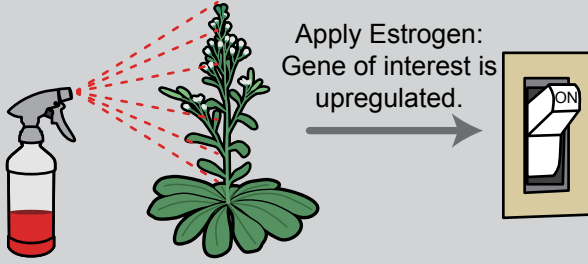


Estrogen Inducible System for Transgenic Plants



- Allows researchers to express the gene of interest only when the estrogen chemical is applied to the plant.
- This tool allows scientists to investigate how a gene affects the plant.

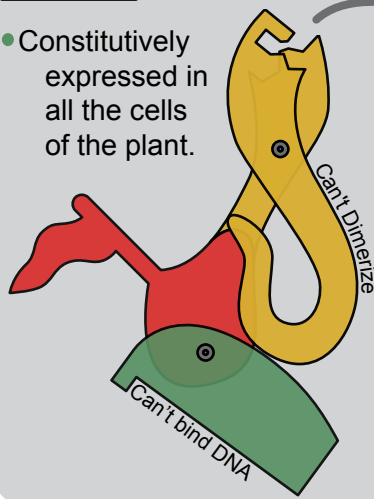
Plasmid: pMDC7



- This region of the plasmid diagrammed here is inserted into the plant genome during plant transformation.

XVE

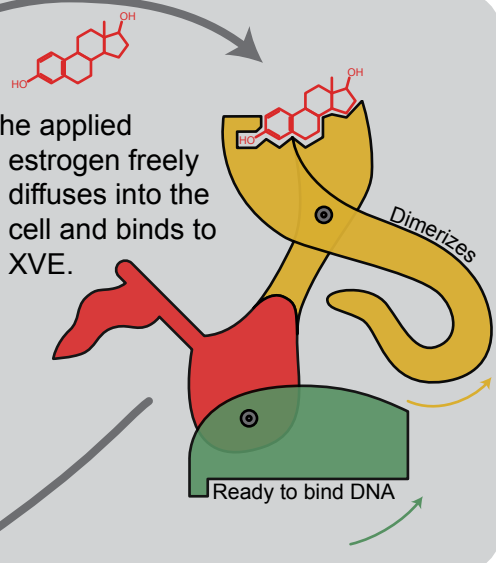
- Constitutively expressed in all the cells of the plant.



XVE is a Chimeric Recombinant Protein

- ♀ **Estrogen Receptor (E)** (Estrogen Binding & Regulatory Region)
- **VP16 (V)** (Transcriptional Activation)
- 🔪 **LexA (X)** (DNA-Binding)

- The applied estrogen freely diffuses into the cell and binds to XVE.



- Dimerizing allows the LexA domains to bind the LexA operator sequence in front of the gene of interest.
- The VP16 domain then causes transcriptional up-regulation of the gene of interest.

