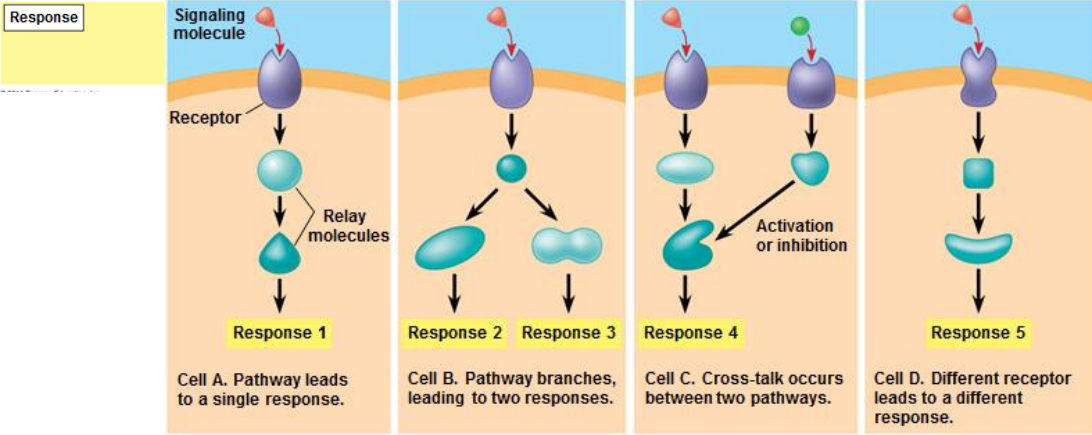
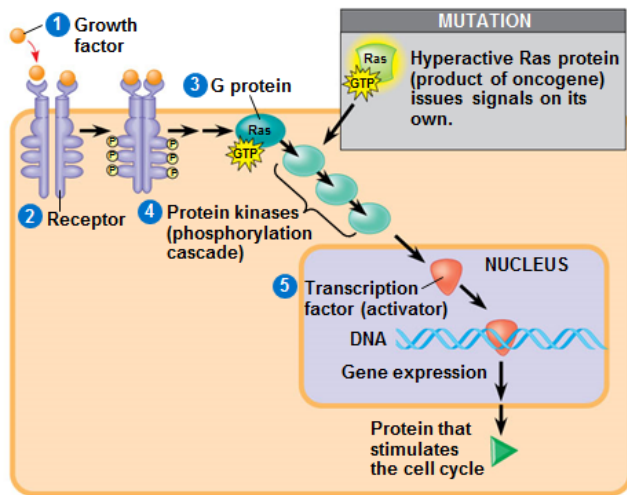
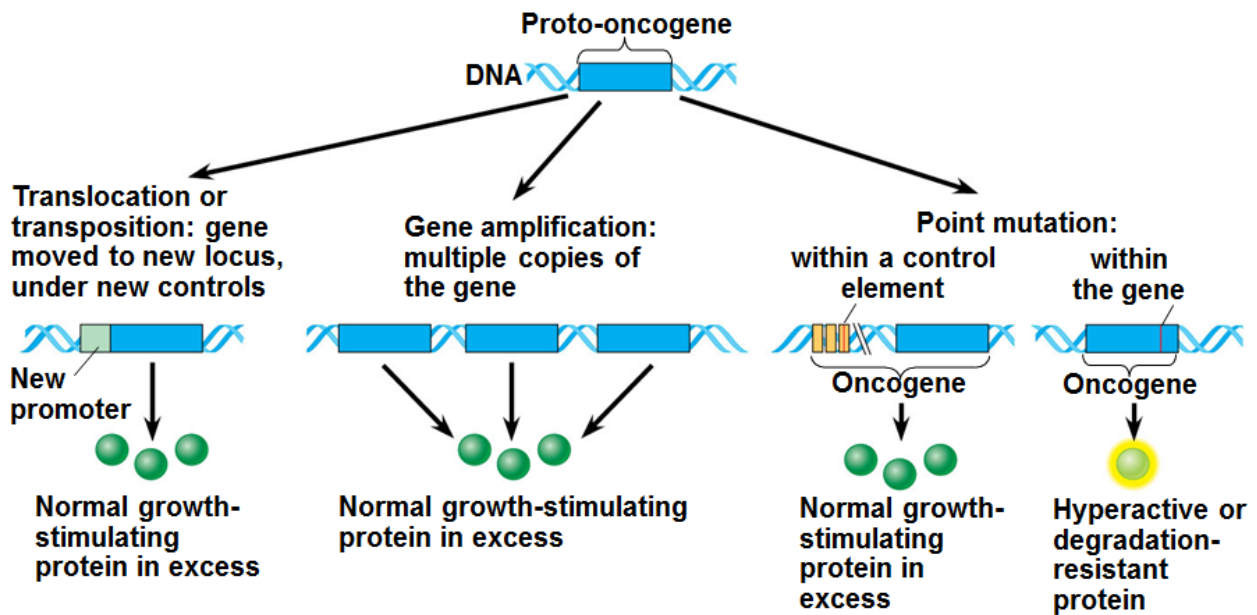


Reception
Binding of epinephrine to G protein-coupled receptor (1 molecule)

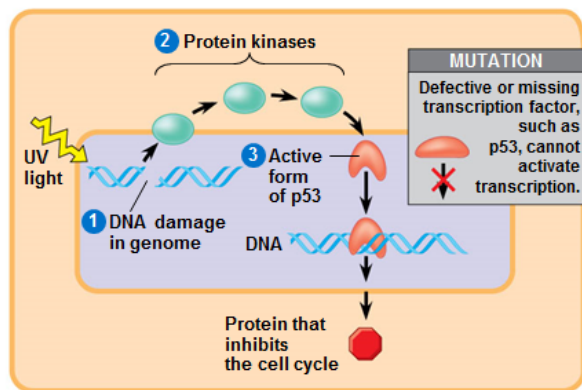
Transduction

- Inactive G protein → Active G protein (10^2 molecules)
- Inactive adenylyl cyclase → Active adenylyl cyclase (10^2)
- ATP → Cyclic AMP (10^4)
- Inactive protein kinase A → Active protein kinase A (10^4)
- Inactive phosphorylase Kinase → Active phosphorylase kinase (10^5)
- Inactive glycogen phosphorylase → Active glycogen phosphorylase (10^5)

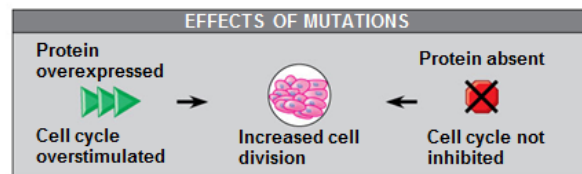




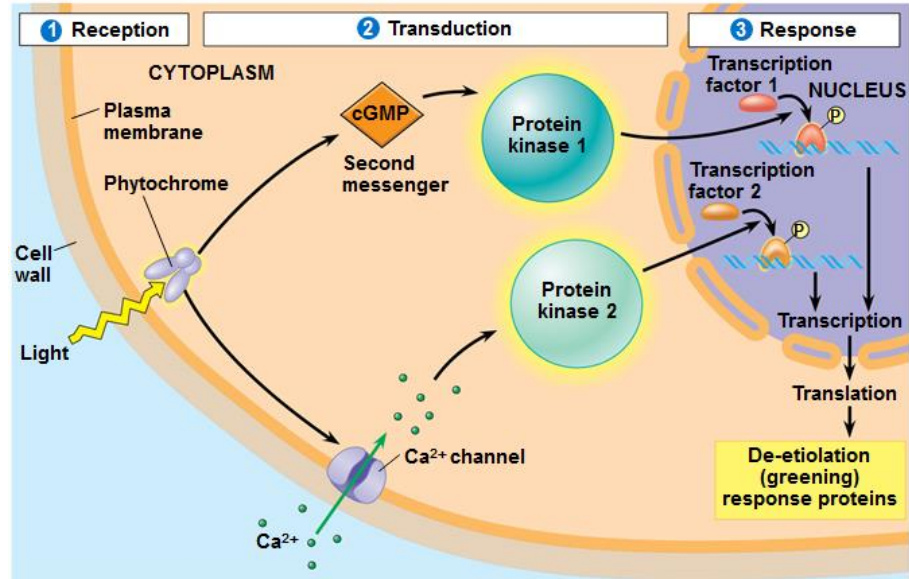
(a) Cell cycle-stimulating pathway



(b) Cell cycle-inhibiting pathway



(c) Effects of mutations



Etiolation

De-etiolation

What are the three parts of the cell signal process?

What is a second messenger?

Phytochrome –

What happens with de-etiolation?

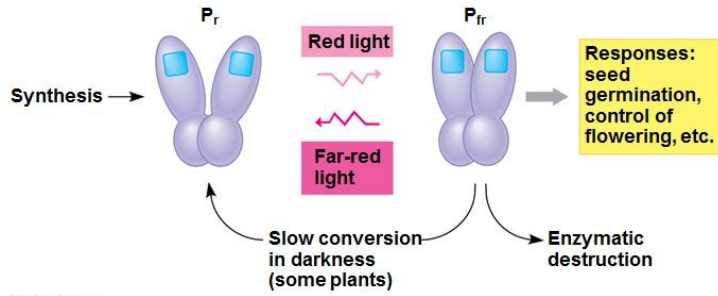
Tropism –

Phototropism –

Gravitropism –

PLANT HORMONES

In general, hormones control plant growth and development by affecting the _____, _____, and _____ of cells.



Short day plant -

Long day plant -

