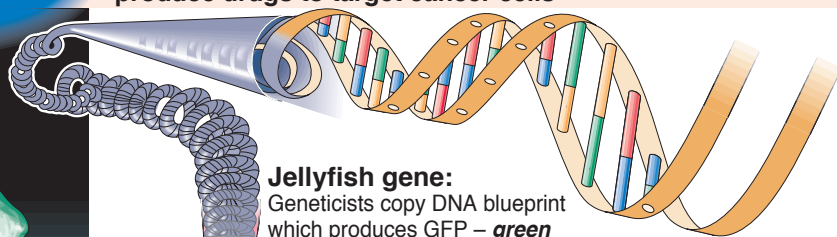
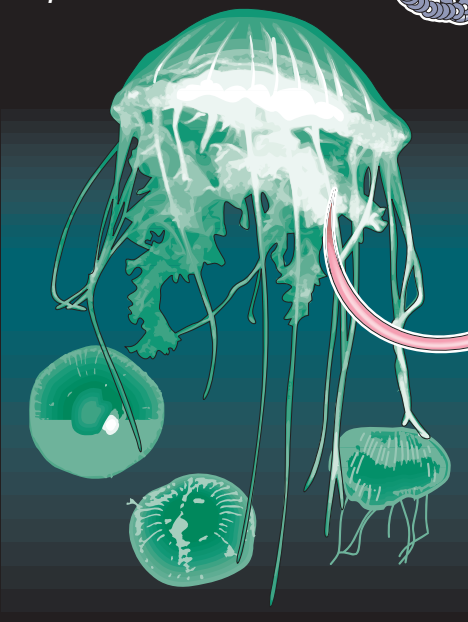


# Shedding light on growing cells

The humble jellyfish is helping in the fight against cancer. **Green fluorescent protein (GFP)** – which the creature can flash on and off as a defence mechanism – is being injected into human cells to enable scientists to see how individual proteins move when cells divide. The technique could help produce drugs to target cancer cells

Fluorescent jellyfish, *Aequorea victoria*

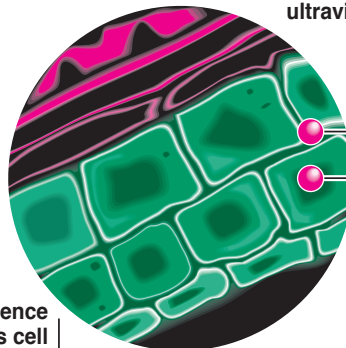
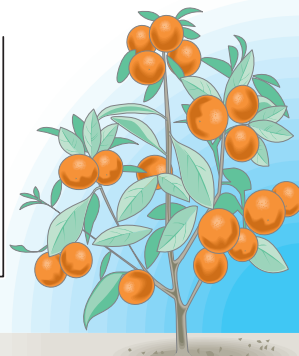


## Jellyfish gene:

Geneticists copy DNA blueprint which produces GFP – **green fluorescent protein**. This gene has been successfully spliced into DNA of other organisms, including bacteria, nematode worms, fruit flies, mice and plants

## Fluorescent tagging:

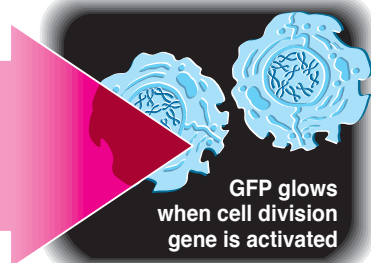
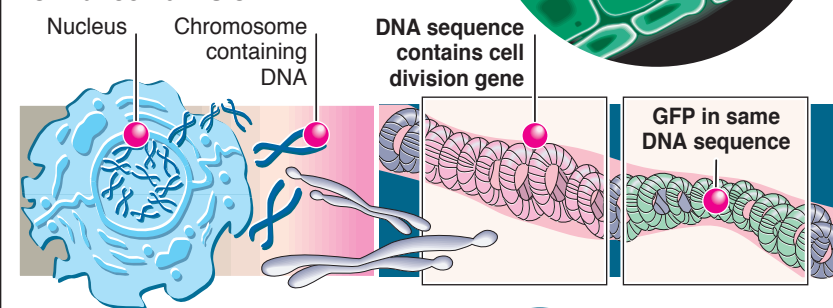
Once activated, GFP illuminates a genetic 'on-off' switch, enabling plant cells containing the protein to glow when subjected to a burst of ultraviolet light



## Glowing cells:

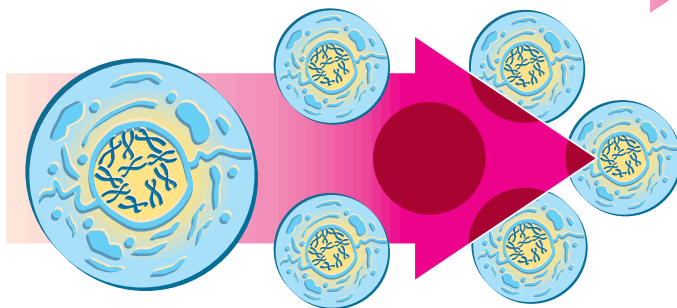
GFP molecule is activated when an external stimulus 'switches on' adjacent genes in the DNA sequence

## Normal cell division:



## Cancer cell proliferation:

Growth of cancer cells occurs when cell division genes – having been transformed by agents known as **carcinogens** – run out of control



**New drugs:** By using GFP to compare what goes on inside healthy cells and cancer cells, scientists hope to develop drugs to block cell division without the side effects caused by radiation or toxic chemicals

