

TOOLKIT of BIOLOGICAL PARTS

These blocks represent biological parts that can be used to solve a problem.

START/STOP



On and off
Turns biological parts on and off.

MOVEMENT

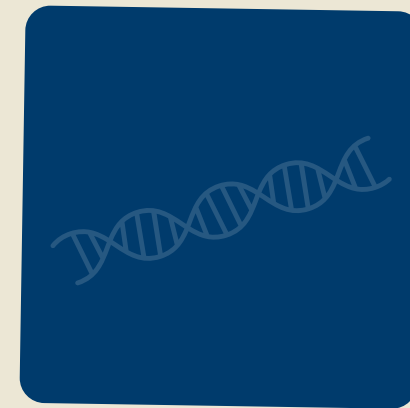


Cell movement
Helps the engineered organism move around.

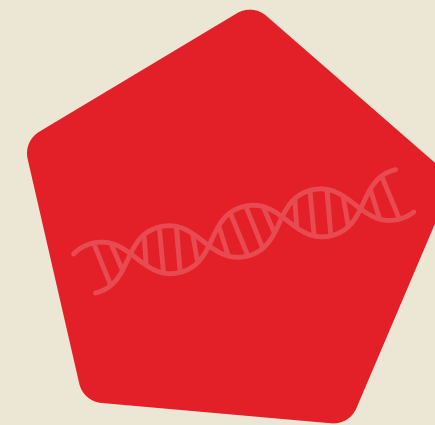
SENSORS



Cancer sensor
Detects certain abnormal, cancerous cells.

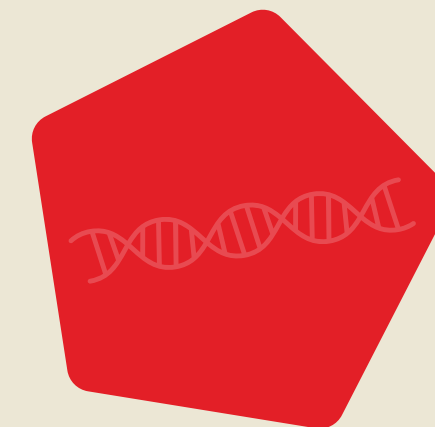


Toxic chemical sensor
Detects potentially dangerous or toxic chemicals in the environment.

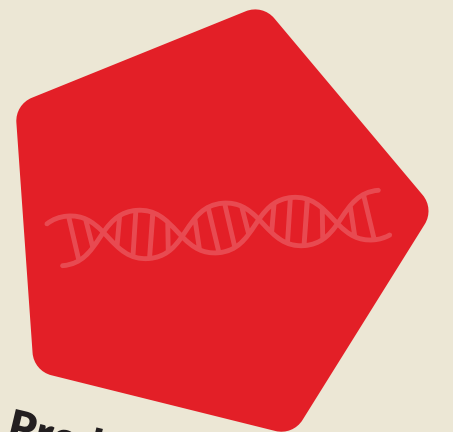


Produce visible light
Glow to indicate where the cell is when it is working.

PRODUCTION

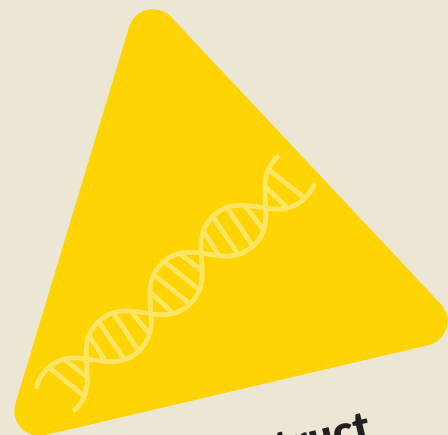


Produce artificial blood components
Makes a blood protein that can be used in blood substitutes.



Produce acrylic components
Makes an acrylic plastic from a simple sugar.

SAFETY



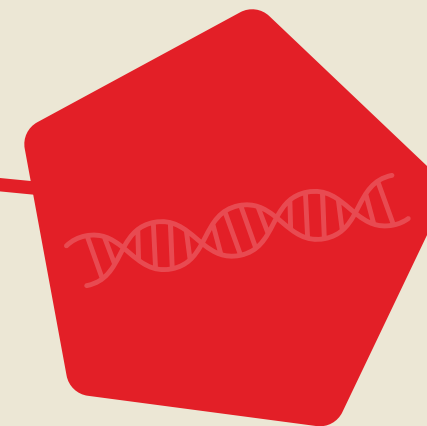
Self-destruct
Causes complete termination and cell death.



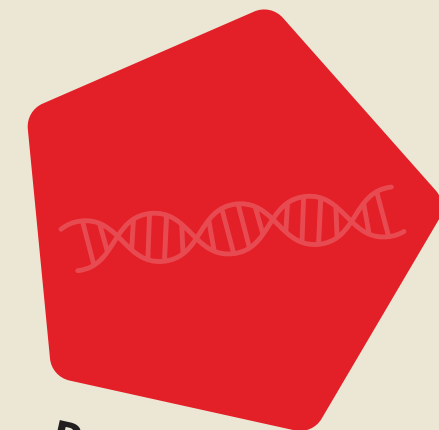
Location specific
Prevents engineered genetic material from working if transferred into a different living organism.



Communication sensor
Looks for and recognizes other similar engineered cells to help them work together.



Communication signal
Sends out a signal to similar engineered cells to help them work together.



Produce an antimalarial drug
Makes artemisinin acid, a key ingredient in drugs that treat malaria.

In real life, synthetic biologists are developing a library of standard biological parts that can be mixed and matched to create new or modified living organisms.