Email : sales@scilabexport.com
Phone: +91-7082934803

Product Name :

Turning Genes On and Off Lab Investigation

Product Code :

SLE/EB/16



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Description :

Turning Genes On and Off Lab Investigation is a gene-regulation practical in which students watch a gene respond to its surroundings. A commonly found microbe makes a red pigment when the gene is expressed, so colony colour shows the result. Students predict and then test the effect of temperature, and later design their own tests of other variables.

Gene expression investigation details

Parameter	Detail
Type	Gene regulation and expression lab investigation
Organism	A commonly found microbe (not named in the listing)
Visible marker	Expression of the gene produces a pigment that turns the bacterial colonies red
Main variable	Temperature
Extension work	Students design their own experiments to identify other variables that may affect gene expression
Product code	SLE/EB/16
Minimum order	10 units
Dispatch	Usually within 7 to 10 working days
Supplied by	ScienceLab (Jain Scientific Equipments Pvt Ltd), Ambala, India

Running the gene expression investigation

Setting up the temperature test. Students label the base of each glass petri dish with its temperature and the date, inoculate it as the kit instructions direct with a fresh inoculation loop, and tape the lid shut. One plate stays on the bench and a second goes into a laboratory incubator set warmer, with extra plates for any further temperatures.

Logging the real temperatures. Rest a digital thermometer probe beside each set of plates and note the reading at every check, because a bench near a window can drift during the day. At each check, students score colony colour on a class scale of red, pink and pale and write it next to the measured temperature.

Planning a follow-up test. Each group chooses one more variable, such as light, the culture medium or the length of incubation, writes a prediction and keeps every other condition the same. Results go into one class table, which leads into a discussion of why cells keep some genes switched off until conditions call for them.

Clea e cultu ve bag,