Infection and response

Answers

GCSE science knowledge recall

This topic online

Q	Answer	Remember
1	pathogen	The four types are viruses, bacteria, protists and fungi.
2	virus	Bacteria, by contrast, can multiply outside cells and may release toxins.
3	measles	It can be fatal, which is why most young children are vaccinated against it.
4	antiretroviral drugs	Untreated HIV attacks the immune cells and can lead to AIDS.
5	tobacco mosaic virus	It affects tomatoes as well as tobacco plants.
6	Salmonella	In the UK, poultry are vaccinated against it to control the spread.
7	gonorrhoea	Its spread is controlled by using condoms and by treating infected people with antibiotics.
8	rose black spot	Spores spread in water and wind; treated with fungicides and by removing affected leaves.
9	mosquito	Nets and insecticides stop the vector biting, which cuts the spread.
10	hydrochloric acid	Other non-specific defences: skin, nose hairs, mucus and cilia in the airways.
11	cilia	Mucus traps the pathogens; the cilia move it to the throat to be swallowed.
12	phagocytosis	Phago = eat, cyte = cell.
13	antitoxins	Antitoxins neutralise toxins; antibodies target the pathogen itself.
14	antibodies	Each antibody fits only one antigen, so it is specific to one pathogen.
15	dead or inactive	It carries the antigens, so white blood cells learn to make the right antibodies.
16	White blood cells recognise the pathogen and quickly make large numbers of the right antibodies, destroying it before it can cause illness.	The second response is faster and bigger than the first. Vaccinating most people also protects the rest: herd immunity.
17	bacteria	Antibiotics do not work on viruses, because viruses live inside our own cells.
18	Alexander Fleming	The mould was *Penicillium*, a fungus.
19	foxglove	Aspirin, in a similar way, was first found in willow.
20	placebo	Comparing with a placebo group shows whether the drug itself has any effect.

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Q	Answer	Remember
21	double blind	This stops anyone's expectations from biasing the results.
22	dose	Pre-clinical tests use cells, tissues and animals before any healthy volunteers.
23	hybridoma	The lymphocyte makes the antibody; the tumour cell lets it divide again and again.
24	The antibodies are specific to an antigen found only on the cancer cells, so they bind to those cells and carry the drug there.	Healthy cells are less harmed. A drawback is that monoclonal antibodies can cause more side effects than first hoped.
25	hCG	hCG is made by the developing embryo.
26	chlorosis	Magnesium is needed to make chlorophyll.
27	nitrate	Plants use nitrate ions to make the amino acids that build proteins.
28	aphids	Ladybirds eat aphids, so they can be used as biological control.
29	waxy cuticle	Cellulose cell walls and layers of dead bark cells are other physical barriers.
30	mechanical	Thorns are mechanical too. Antibacterial chemicals and poisons are chemical defences.

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