

Bacterial growth, plant medicines and drug testing

Name the conditions required for bacterial growth.

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How do bacteria reproduce?

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Which plant provides allicin and what is it used for?

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Which plant substance led to aspirin?

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What does digitalis come from and what is it used for?

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Why is the dish incubated upside down?

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Why is the lid not sealed completely?

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What is a zone of inhibition?

Asexually by binary fission.

Nutrients (carbon and nitrogen sources, ions), suitable temperature, oxygen (aerobes), suitable pH and water.

Salicin from willow bark.

Garlic. Allicin has antimicrobial properties.

So condensation does not drip onto the agar.

Foxglove (*Digitalis purpurea*); treating some heart conditions.

A clear area around a disc where bacterial growth has been prevented.

To let oxygen in and so avoid growing anaerobic pathogens.

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Why is a solvent-only disc included?

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What was digitalis soup?

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What is a double-blind trial?

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Phases of clinical trials.

A traditional herbal mixture for dropsy that William Withering investigated, identifying foxglove as the active ingredient.

As a negative control to show that the solvent is not causing the zone of inhibition.

Phase 1: safety in healthy volunteers. Phase 2: effectiveness and dose in patients. Phase 3: large trial against placebo or existing treatment.

Neither patients nor researchers know who receives the drug or the placebo.