

Water potential

How do ions dissolve in water?

Water potential

Hypertonic, hypotonic, isotonic?

Water potential

Direction of osmosis in terms of solute concentration?

Water potential

What happens to water in an isotonic environment?

Water potential

How do you deduce the isotonic concentration of plant tissue?

Water potential

What does standard error show?

Water potential

Cell without a wall in hypotonic vs hypertonic medium?

Water potential

What is the role of a contractile vacuole?

Higher, lower or the same solute concentration compared with another solution.

Cations attract the δ^- oxygen ends and anions the δ^+ hydrogen ends of polar water molecules, which surround them.

Dynamic equilibrium: water moves in and out at equal rates, so there is no net movement.

From the less concentrated (hypotonic) solution to the more concentrated (hypertonic) solution.

How precisely the mean is known from the repeats; shown as error bars, used to compare reliability.

Plot mean percentage change in mass or length against solute concentration; read where the line crosses zero.

Collects and expels water that enters freshwater unicellular organisms by osmosis, so they do not burst.

Hypotonic: swells and bursts. Hypertonic: shrinks and crenates.

Water potential

Turgor pressure vs plasmolysis?

Water potential

Two medical uses of isotonic solutions?

Water potential **HL only**

What is water potential and its reference point?

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Which way does water move in terms of water potential?

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Water potential equation, and signs of each term?

Water potential **HL only**

Plant tissue in a hypertonic solution: ψ_s and ψ_p ?

Intravenous fluids and bathing organs ready for transplantation.

Turgor: pressure on the wall in a hypotonic medium. Plasmolysis: membrane pulls away from the wall in a hypertonic medium.

From higher to lower water potential, which lowers its potential energy.

Potential energy of water per unit volume; relative to pure water at atmospheric pressure and 20°C (0 kPa).

Water leaves; ψ_s becomes more negative and ψ_p falls to zero until ψ_w of the cells equals that of the solution.

$\psi_w = \psi_s + \psi_p$. ψ_s is zero or negative; ψ_p is usually positive in cells, negative in xylem under tension.