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Q33

Which one of the following is synthesised in human body that dilates blood vessels and increases blood flow? (a) Nitric oxide (b) Nitrous oxide (c) Nitrogen dioxide (d) Nitrogen pentoxide Official key: A.

UPSC Civil Services Prelims 2024 · General Studies · 2 marks · Science and Technology
Science, technology, space, defence, IT - Prelims GS Paper I.

Explanation**(a) Official key**

Nitric oxide. Endothelium-derived relaxing factor; dilates vessels.

(b)

Nitrous oxide. Anaesthetic ("laughing gas"), not the body's dilator molecule.

(c)

Nitrogen dioxide. Pollutant, not a vasodilator hormone.

(d)

Nitrogen pentoxide. Not a human signalling molecule.

Summary

Official key is (a) nitric oxide (NO). Vascular endothelium makes NO, which relaxes smooth muscle and increases blood flow. Nitrous oxide (N₂O) is an anaesthetic. NO₂ and N₂O₅ are not the endogenous dilator.

Related possible facts

These can be asked in a future Prelims paper.

eNOS

Endothelial nitric oxide synthase; makes NO from L-arginine.

Nitroglycerin

Drug that donates NO; used in angina.