

Yellow Food Dye

September 10, 2024 • vajiramandravi.com



About Yellow Food Dye:

- It is also known as **tartrazine** and is a **synthetic food colorant** classified as an azo dye.
- It is lemon yellow in color and **water soluble**.
- It is used in many dairy products, beverages, desserts and confectioneries etc.

Highlight of the study

- This dye absorbs blue light strongly, which yields its characteristic **orange-to-red color** when dissolved in water.
- This happens because the blue part of the light is absorbed, leaving **only the orange-to-red part visible**.
- Normally, biological tissues scatter light due to their diverse composition of proteins, fats, and liquids.
- Researchers found that a **concentrated tartrazine solution** can match the **refractive indices** of these components, reducing light scattering and allowing light to pass through. This makes the skin appear transparent.

- When applied, **tartrazine absorbs certain wavelengths** of light, especially red light, changing how light interacts with the tissue.
- This effect enabled the researchers to see blood vessels, internal organs, and muscle contractions in real-time.

Potential Applications

This technique could simplify blood draws, improve laser tattoo removal, and aid in **early cancer detection**.

Q1: What is the Refractive index?

It is a measure of the bending of a ray of light when passing from one medium into another.

Source: Scientists use common yellow food dye tartrazine to make skin transparent, see internal organs inside body

Source: <https://vajiramandravi.com/current-affairs/yellow-food-dye/>

© Vajiram & Ravi. For personal use only.