



Artemisinin Latest News

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Artemisinin is an extract from the plant *Artemisia annua* (Qinghao), which, when used in combination therapies, is the **front-line treatment for uncomplicated *Plasmodium falciparum* malaria**.

Artemisinin-based Combination Therapies (ACTs)

- **Mechanism:** ACTs combine a fast-acting artemisinin derivative with a longer-acting partner drug.
- **Artemisinin's role:** It rapidly reduces the parasite load.
- **Partner drug's role:** It clears the remaining parasites and provides mutual protection against drug resistance.
- **Global Impact:** ACTs are credited with saving millions of lives and have been a cornerstone of global malaria control and elimination efforts, especially after widespread resistance emerged to older drugs like Chloroquine.

The Problem of Resistance

- **Latest News:** The latest concern is the documented rise of **Artemisinin resistance in Africa**, showing early warning signs similar to what was previously experienced in Southeast Asia 10-15 years ago.
- **Mechanism of Resistance:** Resistance is linked to specific genetic mutations (e.g., in the **kelch13** gene) in the *Plasmodium falciparum* parasite, which allows it to temporarily enter a slow-growing survival mode.
- **The Urgent Call:** There is a collective consensus on the urgent need for **coordinated global action** to:
 - Diversify drug use and change treatment strategies rapidly.
 - Intensify surveillance (monitoring drug resistance markers).
- **Disease Management:** Malaria and drug resistance are critical topics for India, which has historically been a high-burden country but is working towards elimination.
- **Scientific Breakthrough:** The discovery of Artemisinin led to the Nobel Prize in Medicine for TYouyou, highlighting the importance of traditional medicine research.
- **Global Health Security:** The spread of resistance is a global health security threat that can undo decades of progress in malaria control.