

Docket #: S24-390

Plant-Based Zinc Protoporphyrin for Neonatal Jaundice Therapy

Stanford scientists have developed a plant-derived zinc protoporphyrin (ZnPP) produced from legume hemoglobin, a breakthrough therapy candidate for treating neonatal jaundice.

Neonatal jaundice affects millions of newborns worldwide, posing a serious health challenge that can lead to neurological damage if not treated promptly. Traditional treatments often rely on animal-derived compounds or phototherapy, which have limitations regarding efficacy, scalability, and safety.

Our technology offers a new solution: it starts with extracting heme, a naturally occurring iron-containing molecule, from legume hemoglobin using a series of well-developed purification steps. Notably, the compound is not photoreactive, making it uniquely safe for newborns. This innovation enables scalable production of pharmaceutical-grade material from sustainable plant sources, positioning it as an accessible and effective therapy for hospitals and birthing centers

Stage of Development: Research - in vivo data

Applications

- Treatment of neonatal jaundice
- Research into safer alternatives for porphyrin-based therapies
- Drug development for related blood and liver disorders

Advantages

- Extremely pure research-grade ZnPP from sustainable plant sources
- Improved safety profile and not photoreactive, minimizing risk to infants

- Scalable and animal-free production process

Innovators

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