

# AQUANANOGE

Domain: Dosage formulation development - Pharmaceuticals

## Unmet Need & Opportunity

Diabetic foot ulcers are common among diabetes patients, have a long term impact on the morbidity, mortality and quality of patients lives. Without early and optimal intervention, the wound can rapidly deteriorate leading to amputation of the affected limb. The University of Texas Wound Classification System graded at stage D for the diabetic foot ulcer infection and ischemia.

The Predominant pathogens causing diabetic foot infections are gram-positive cocci, however other pathogens are involved so infection should be considered polymicrobial. With non-healing ulcers, diabetic patients run a high risk of depression. There is an urgent need for this unresolved health risk for the diabetic patients which was addressed through this piece of research on development of a novel nanoscale aquasomes drug delivery system which provides a complete heal of this ulcer by killing the bacterial proliferations.

## Stage of Development

TRL: 5

The gel is validated in more realistic preclinical settings, with a focus on the gel's efficacy, safety, and performance. Testing has been done in animal models, evaluating how well the gel performs under conditions that replicate the complexities of diabetic foot ulcers.

## Applications / Use case

The aquananogel is applied over the diabetic foot ulcer infection topically with a randomly squeezed yield from the container made patient friendly use of the antibiotic loaded nanosize drug loaded gel formulation.

## Technology Description

*AQUASOMES* at nano size of 100 to 400 nm as lyophilized free flowing powder form which is converted into topical gel named as *AQUANANOGE*

*AQUANANOGE* can disperse easily, penetrates deep diabetic foot ulcers wounds infected with bacteria provides prolonged and sustained release of the antibiotic for treating foot ulcer infections of diabetic patients.

## Market Scope

The global diabetic foot ulcer treatment market size was estimated at USD 5.18 billion in 2023 and is expected to grow at a compound annual growth rate (CAGR) of 6.0% from 2024 to 2030

## Value Proposition

Nanoformulation for deep penetration, sustained antibiotic release and healing.

Patent-protected and commercialization ready.

Addresses global diabetic foot ulcers

## IP Status

Indian file no: FA/1859/CHE/2018

US GRANT no: US11110064 B2 (Priority / Filing Date: Dec 16/12/2018) – Tentative Expiry: Dec 16/12/2038)

## Transaction Opportunity

Exclusive, Non-Exclusive Licensing & Option License Agreement (co-develop or collaboration for further validation)