

Uncovering Novel Compositions Derived from Camels and Health Benefits

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Abstract

We developed a camel-inspired medication to treat sickle cell disease, a sulfated non-anticoagulant low-molecular weight heparin (SNACH). Camel-derived SNACH has been shown pre-clinically to be more efficacious than the currently available therapies for sickle cell disease and sickle cell crisis due in part to its multi-model mechanisms of action. While current therapies attempt to treat sickle cell disease via one mechanism, SNACH has a number of independent mechanisms of action that serve to rapidly resolve or prevent sickle cell crises by acting as an anti-sickling, anti-thrombotic, anti-selectin and anti-adhesive. Nanoformulated SNACH with camel milk lactoferrin demonstrated high oral bioavailability in Sickle cell, cancer, inflammatory, and infectious diseases. Dr. Mousa has also applied his expertise in the area of Nanoformulation to use natural products, such as mushroom and shellfish-derived polycationic chitosan or camel milk, lactoferrin to Nanoformulate prophetically recommended products such as ajwa dates, musk, black seed, and others for effective development and delivery as pharmaceutical products to treat various diseases. Dr. Mousa continues these efforts in his laboratories at the Pharmaceutical Research Institute in New York as well as with his collaborators in Saudi Arabia at the Prophetic Medicine Chair and across the world.