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Singapore firm, Stehlin Foundation collaborate on anti-cancer drug

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Singapore: NanoMaterials Technology (NMT), a Singapore based company, has signed an exclusive material supply agreement with Houston-based CHRISTUS Stehlin Foundation for Cancer Research (Stehlin Foundation) on a formulated CZ48 drug for a Phase I clinical (human) trial.

CZ48 is an analog synthesized by the Stehlin Foundation from Camptothecin, an alkaloid extracted from the Chinese tree camptotheca acuminata. When Camptothecin and many of its derivatives are used in humans, the enzymes inactivate some of the drug molecules, eliminating their anti-cancer effect. However, CZ48 is a stable form of Camptothecin, and resistant to inactivation while circulating in the human bloodstream. This topoisomerase I inhibitor has very low toxicity even at more than 20 times the therapeutic dose, and eradicated 29 different human cancers transplanted into the Stehlin Foundation's athymic nude mice in pre-clinical studies.

Stehlin Foundation has partnered with NMT to develop the formulated CZ48 drug using its proprietary High Gravity Controlled Precipitation (HGCP) Technology to elevate absorption by decreasing the size of the CZ48 drug particle. Pre-clinical studies have indicated that a significantly lower dosage with only 25 percent of the original CZ48 molecule is required to achieve complete tumor inhibition using the formulated CZ48 drug.

Under the terms of the agreement, NMT will provide the formulated CZ48 capsules to the Stehlin Foundation for the Phase I study.

"We anticipate launching the Phase I clinical trial with the new formulation of CZ48 during the first quarter of 2014. The study should involve around 30 patients and require 24 months for completion," said Mr. Robert Anderson, President, Stehlin Foundation. "If Phase I results are as expected, we will move into Phase II."

"We have been working on the CZ48 drug with the Stehlin Foundation for more than five years. We are glad that our HGCP technology is able to improve bioavailability, reduce drug dosage and side effects, as well as enhance the patient compliance of this highly potential drug. We will continue working closely with the Stehlin Foundation team to support their human clinical

trials, commercialization and future developments," says Mr. David Sher, Managing Director, NMT.

Based on IMS Health Reports, anti-cancer drugs will remain the highest grossing sector of the healthcare industry with global sales estimated to reach USD83 billion by 2016. The CZ48 drug, together with Camptothecin and its other derivatives, has a potential market of USD1 billion in USA alone.