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Limbo™ platform, an innovative methodological approach towards cryopreservation of cell therapy products

Roberto Hernan
Cellulis Ltd., UK

Many cell therapy products need to be frozen to maintain product stability. Freezing and thawing cells correctly require several processes that need to be performed with care to avoid cell damage. The inadequate performance and lack of uniformity of these protocols may infer undesirable inconsistencies on the cellular products jeopardizing therapeutic efficacy. Despite current technological advances, cryopreservation protocols have been highly conserved during the last 65 years since the very first discovery of cryoprotectants. Hereby we propose a novel methodological approach to cryopreservation which introduces simple enclosed mechanisms that assure the correct standardization of freezing and thawing processes, as well as rendering a final product formulation for the cell therapy market. These mechanisms take place inside the Limbo™ vial, making the post-thawing cellular reconstitution process operator-independent. Limbo™ cryovials offer the opportunity to avoid sample washing to diminish the DMSO effect, reducing in turn expensive costs and resources at the point-of-care. Furthermore, this technology introduces a unique dry thawing system which not only enforces safe and correct thawing protocols but also eliminates contamination risks associated to water baths. In summary, this novel technology is a safeguard for most frozen cell therapies because it avoids sample handling at the point-of-care while addresses the need for appropriate cellular recovery standardization protocols in the clinic.

Biography

Roberto Hernan has completed his Bachelor's degree in Biology (1994). He worked as a Research Technician at the University of Newcastle Upon Tyne (UK), focused on his Cancer Research career at St. Jude's Children Research Hospital, Memphis (USA) and in 2005 obtained his PhD in Pediatric Oncology at Newcastle University. He then led the Business Development of Pharmakine for 7 years. At present, he holds the position of Chief Scientific Officer at Cellulis, where he is also a partner. He has participated as a major contributor in ten scientific publications and has led the development of three different patents within the cryopreservation field.

hernan@cellulis.com

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