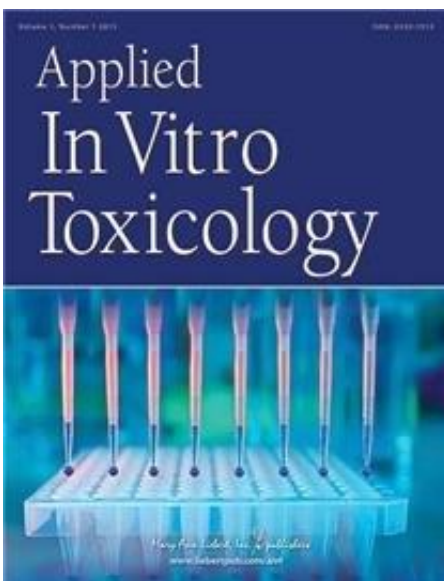# New 3-D human skin models could replace animal testing to assess dermal sensitivity to medical device

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Credit: Mary Ann Liebert, Inc., publishers

New research shows that exposing a 3D human skin tissue model to extracts of medical device materials can detect the presence of sensitizers known to cause an allergic response on contact in some individuals. Conventional skin sensitization testing of medical devices relies on animal testing, whereas human skin models could replace animal methods, according to an article in the new journal *Applied In Vitro Toxicology*.

Kelly Coleman, Lori McNamara, Thomas Grailer, Medtronic PLC (Minneapolis, MN), Jamin Willoughby, Donald Keller, Cyprotex US LLC (Kalamazoo, MI), and Prakash Patel, Simon Thomas, and Clive Dilworth, Cyprotex PLC (Macclesfield, UK), describe experiments using EpiDerm, a reconstructed human epidermal tissue model, and the SenCeeTox assay, which monitors survival of the skin cells, their reactivity, and changes in the expression of specific genes on exposure to chemicals that may cause a hypersensitivity reaction.

In the article "Evaluation of an In Vitro Human Dermal Sensitization Test for Use with Medical Device Extracts", the researchers show that this method was able to detect the presence of known skin sensitizers in medical device extracts, even if the sensitizers are present at very low levels.

   More information: The article is available free on the *Applied In Vitro Toxicology* website until August 29, 2015.

Provided by Mary Ann Liebert, Inc