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Abstract

Invitro skin models have numerous applications in the field of pharmacology, toxicology and in understanding various disease mechanisms1.Extracellular matrices from porcine gall bladder, small intestine and urinary have been shown to have excellent scaffold propertiesfor tissue engineering applications due to the presence of cytokines and growth factors that provide the biological signals for wound healing2,3. HaCaT cells, having stable genetic character, can be effortlessly exploited for in vitro skin studies as they are easier to grow and subculture when compared to primarily isolated keratinocytes. Here, an in-vitro skin model was constructed using HaCaT cells seeded on three prototypes of porcine ECM scaffolds for skin tissue engineering and regenerative medicine applications4 and it was characterized structurally and functionally.

Methodology

Three prototypes of tissue engineering scaffolds were prepared from porcine gall bladder (cholecyst), small intestine and urinary bladder using previously published protocol4 and named as cholecyst, jejuna andurinary-bladder derived scaffolds (or C34 C34 der (or