عنوان مقاله:

Co-culture of human skin keratinocytes and melanocytes on a novel biodegradable scaffold

محل انتشار:

پنجمین کنگره بین المللی مهندسی شیمی (سال: 1386)

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خلاصه مقاله:

Extensive full-thickness burns require replacement of both epidermis and dermis. Using developed procedures for establishing confluent, stratified layers of cultured human keratinocytes on the surface was generated biodegradable scaffold that contains fibroblasts. In present study, we developed culture methods for propagating of keratinocytes and fibroblasts isolated from human neonatal foreskin. The growth, proliferation and differentiation of normal human keratinocytes were evaluated in serum-free (KGM) and our modified medium. Characterization of human keratinocytes was determined using by pan-keratin and anti-involucrin monoclonal antibodies. We presented modified method using freeze-gelation to fabricate of novel biodegradable and biocompatible collagen-chitosan porous scaffolds with improved biostability. For generating of organotypic coculture epidermal keratinocytes were plated onto the upper surface of our scaffold containing embedded fibroblasts. In conclusion, these data indicate that the integration of scaffold with cocultured keratinocyte and fibroblast in our model provides a potential source of skin for grafting.

کلمات کلیدی:

Coculture, Fibroblast, Keratinocyte, Scaffold, Human skin