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Novel microneedle fabrication method used to encapsulate sensitive compounds and hair shaft inducing chemicals

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Microneedles are referred to microscopic needles capable of delivering drugs and cosmetics to the skin without causing any pain. Microneedles are widely categorized in three categories of hollow, solid and dissolving type. Each of these microneedles are used for different purposes in drug and cosmetics delivery. Recently, we developed a novel microneedle fabrication method which is capable of producing microneedles within 3 minutes via a centrifugation process. In this method, activity of sensitive compounds can be completely repainted as the whole process is done at low temperature closed system. We tested our novel fabrication method using tuberculin purified protein derivatives (PPD) for tuberculin skin test (TST) and observed improved response as well as rapid skin recovery upon application. Dissolving microneedles to hairy parts of body like hair was not possible. However, through Microlancer, a micro-pillar based dissolving microneedles applied using Microlancer induced hair shaft development and can be utilized further in various application fields.

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