

## A Green Method for Preparing Nanocomposite for Biomedical and Cosmetic Industry

### TECHNOLOGY DESCRIPTION

This technology is a method to prepare nanocomposite of a biopolymer and inorganic nanoparticles by a green process for biomedical and cosmetic applications.

### TECHNOLOGY FEATURES

This invention is the nanocomposites of hyaluronan polymer and inorganic nanoparticles. The nanocomposites are suitable to be used in biomedical and cosmetic applications. The prepared nanocomposite contains excellent anti-cancer, particularly on anti-leukemic properties.

### ADVANTAGES

- Anticancer
- Green process
- Environmental friendly

### INDUSTRY OVERVIEW

#### Prospect Industry: Biomedical and cosmetic industries

Bio-cosmeceuticals is a product of convergence between bio-based advances, improved awareness of plant-based materials and consumer demand for safer and effective cosmetic. A major segment of the personal care industry, the global bio-cosmeceuticals market is estimated at approximately US\$42 billion and expected to be worth US\$61 billion by the year 2020, growing at a CAGR of 9%. The Asia-Pacific region contributes approximately 60% of the global market and is expected to hold this position till the year 2020 with demand bound to increase locally and in countries like China, India, Indonesia, Thailand, Singapore and Vietnam. The potential consumer market for this innovation will be the cosmetic industry. As reported in 2013, Malaysians spent about US\$407 million on cosmetics and toiletries products. The skin care products are the main driver of the cosmetics markets, which represent the value of US\$229 million. In 2013, Malaysia imported about US\$295 million worth of cosmetics and toiletries.



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