New research shows anti-wrinkle cream chemical works

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(Medical Xpress)—University of Reading researchers have found that a chemical used in some anti-wrinkle creams can nearly double the amount of the protein collagen needed to give skin its elasticity.

Due to competition in the cosmetic industry, evidence of the effectiveness of cosmetics is hard to find. The research team measured the effectiveness of a peptide called MatrixylTM on collagen, a protein which repairs skin tissue. They found that MatrixylTM can almost double the amount of collagen that the cells in our body produce, provided the concentration is high enough.

Professor Ian Hamley, from the University of Reading's Department of Chemistry, said: "Studies like this are very important for the consumer as cosmetic companies rarely publish their work so rivals can't copy their products. Our research, supported by a University studentship with some additional funding by the Engineering and Physical Sciences Research Council (EPSRC), shows that products with MatrixylTM will have skin-care benefits."

Collagen is the most abundant protein in mammals and constitutes a significant proportion of our connective tissue. It is thought that peptide-based treatments that stimulate the formation of collagen could be made to treat wounds and enhance stem cell research, as well as be used for cosmetic applications.

"Collagen-based materials have immense potential in tissue engineering,"

continued Professor Hamley. "BBSRC has recently funded the team to investigate wound healing in battlefield applications, as part of a collaboration with the Defence Science and Technology Laboratory, part of the Ministry of Defence."

Research partner Dr Che Connon, Reader in Tissue Engineering and Cell Therapy at the University of Reading, is using collagen based materials in the development of artificial tissues and stem cell transplantation.

In 2011 Professor Hamley received a prestigious Royal Society Wolfson Research Merit Award as part of a scheme to keep Britain's top research scientists in the UK. His previous research has provided new insights into potential treatments for Alzheimer's disease, a degenerative and incurable form of dementia that afflicts millions of people worldwide.

"Collagen Stimulating Effect of Peptide Amphiphile C16-KTTKS on Human Fibroblasts" was published (with page numbers) on the *Molecular Pharmaceutics* website on Monday 4 March.

Provided by University of Reading