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Intracellular 'housekeeping' – Autophagy the new approach to anti-ageing

1. What is the Inci name of Adiposol?

Tetracarboxymethyl Hexanoyl Dipeptide-12

2. What is the mechanism behind the autophagy-induced reduction of MMPs?

In general, adiponectin, a cytokine released from adipocytes suppresses both MMP1 expression and its collagen degradation activities. However, under UV exposure, adiponectin level is decreased and therefore cannot suppress MMP expression or collagen breakdown activities. We have demonstrated that autophagy induction in UV exposed skin restores (or even increases) the level of adiponectin and its MMP suppression activity

3. Have you also looked into IL-10/12 Balance (immunosuppression)?

No, we have not, but I think it is a good idea and we will look into this in the near future.

4. Does UV-induced DNA damage still occur?

Very good question. We are performing both COMET assay and gel filtration assay to look into the DNA damage and recovery by autophagy induction.

5. What is the maximum (US compliant) SPF you have been able to demonstrate autophagy to deliver?

We did not measure the SPF boosting activity directly, but have demonstrated that the product increases MED (minimal erythemal dose) by 56%. We will start clinical trials to measure dose-dependency of AdipoSol and SPF increase very soon.

6. How do you demonstrate that your ingredient is an autophagy inducer?

I gave a presentation at the in-cosmetics Formulation Summit 2016 regarding how to measure and demonstrate whether an active ingredient has autophagy inducing activity. There are various ways and we showed that AdipoSol has autophagy induction activity by both measuring the LC3-I to LC3-II conversion (western blot analysis) and through LC3 immunofluorescence by confocal microscopy.