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Ex-vivo cytokine secretion pattern of LPS-induced inflammation in human skin explants

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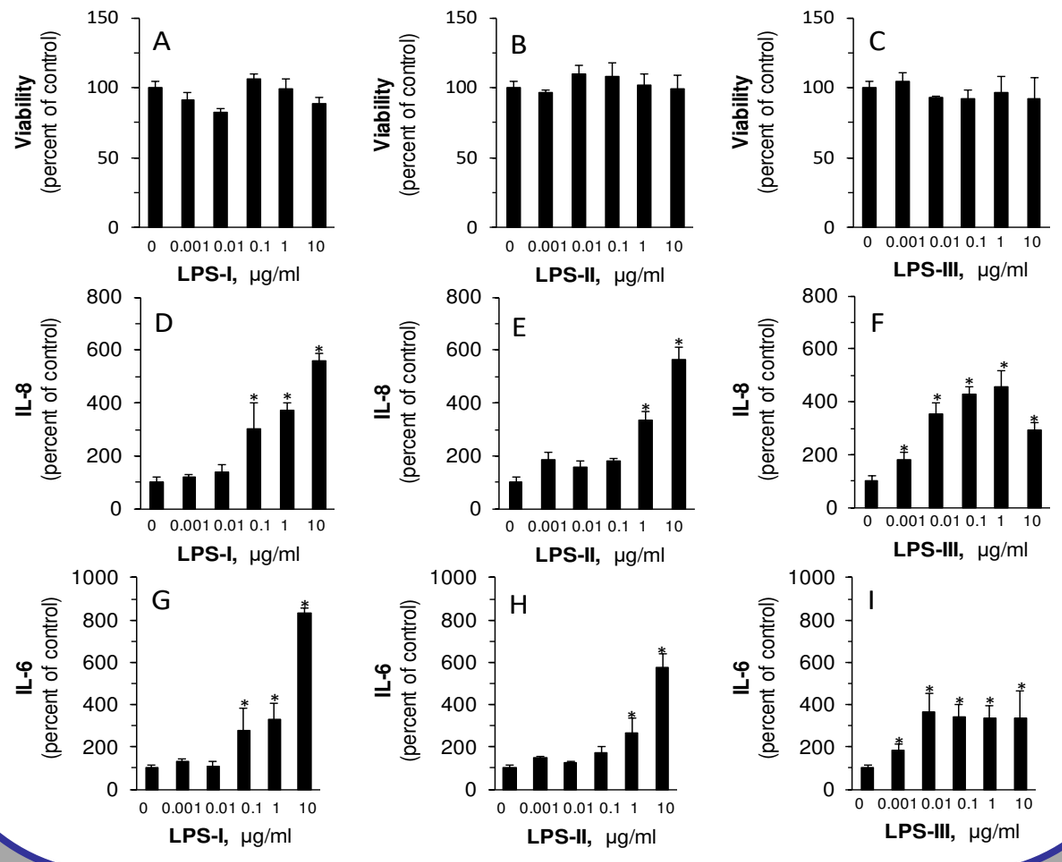
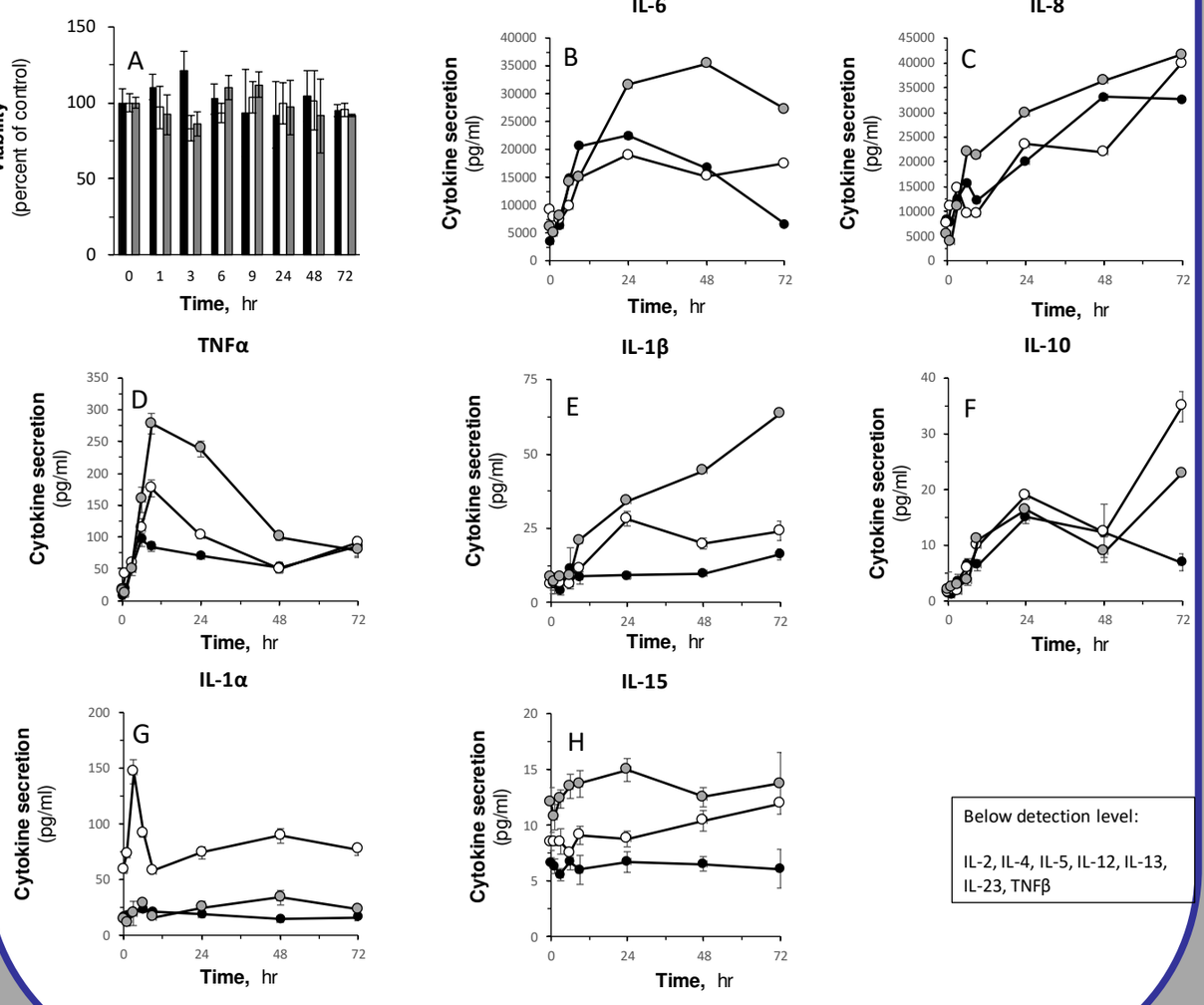
Introduction: The skin serves an important role in the defense mechanism against pathogens and possesses immunomodulatory functions. Several *in vitro* models that mimic different aspects of local skin inflammation exist. The use of *ex vivo* human skin organ culture had been reported previously. However, comprehensive data of the cytokine secretory profile of the system and kinetics have not been reported. The aim of the current study was to investigate the levels of key cytokines secretion upon lipopolysaccharide (LPS) stimuli.

1 The impact of three LPS subtype on cytokine secretion



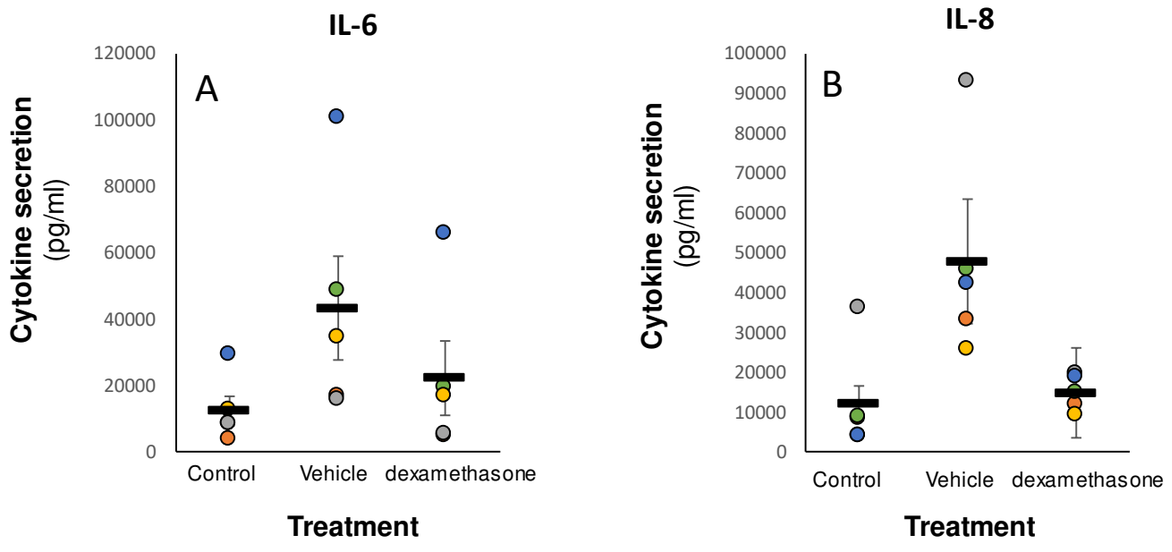
2 Kinetic multiplex analysis of LPS-stimulated skin explants



Below detection level:

IL-2, IL-4, IL-5, IL-12, IL-13, IL-23, TNFβ

3 Pharmacological system validation



4 Conclusions

Our findings provide validated time-dependent standard of *ex vivo* cytokine secretion by human skin organ culture upon LPS stimulus and support the use of the system as a drug screening platform. We show that key inflammation markers are constant and reproducible among different donors.

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