Propositions

belonging to the thesis:

Mechanisms of Psoriatic Plaque Formation in Mice

1. Psoriasis is an immune-mediated inflammatory skin disease, initiated and promoted by environmental cues including skin trauma, psychological stress and infection on the background of genetic factors.

2. The imiquimod model mirrors innate autoinflammatory and early events in psoriatic plaque development rather than the autoimmune pathways actively perpetuating chronic psoriasis (this thesis).

3. Langerin-negative skin dendritic cells are a source of IL-23 and therefore crucial activators of innate lymphocytes to produce IL-17 and IL-22 during the onset of imiquimod-induced psoriasis in mice (this thesis).

4. Plasmacytoid dendritic cells and type-I interferon signaling are required to mediate the systemic proinflammatory cytokine response, but are dispensable for psoriasiform plaque formation upon topical imiquimod treatment of mice (this thesis).

5. Elevated levels of IL-17A in a mouse model in vivo lead to spontaneous and gradual development of a skin phenotype with close resemblance to the anatomical restriction and occurrence of psoriatic plaques in patients (this thesis).

6. The diametrically opposed conclusions on translational value of mouse models for inflammation derived from the same data set ignored published evidence in the field (this thesis, Seok *et al.* 2014 *Proc Natl Acad Sci USA* 110: 3507–3512; Takao and Miyakawa, 2015 *Proc Natl Acad Sci USA* 112: 1167-1172).

7. Molecular characterization will reveal mechanistic diversity in plaque-type psoriasis that cannot be obtained by clinical phenotyping.

8. The efficacy of vaccination is a matter of timing (Silver *et al.* 2012 *Immunity* 36:251–261).

9. A single cell approach to analyze transcriptional states of individual splenic dendritic cells reveals rich cell-type heterogeneity and dynamic pathway activity in the steady state and upon immune challenge, revolutionizing our understanding of classical cell-type hierarchies and in vivo biological functions (Jaitin *et al.* 2014 *Scienc*e 343:776-9).

10. A healthy amount of subdermal fat is pivotal for effective responses to infection and strong skin immunity.

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