

## Propositions

belonging to the thesis:

### IL-10 and TGF- $\beta$ Control of Dendritic Cells at Environmental Interfaces

1. IL-10 signaling does not govern the phenotypic maturation of dendritic cells, but is critical to prevent their excessive secretion of inflammatory cytokines. (This thesis)
2. IL-10 control of dendritic cells is dispensable during naïve T-cell priming in lymph nodes, but it is essential to limit collateral tissue damage during reactivation of effector/memory Th1 and Th17 cells in situ, such as the skin and the small intestine. (This thesis)
3. Beyond its crucial role in Langerhans cell development, TGF- $\beta$  is required to maintain the network of immature Langerhans cells in the epidermis. (This thesis)
4. TGF- $\beta$  controls the expression level of homing and migratory receptors on the surface of dendritic cells, which are essential to maintain colonic immune homeostasis. (This thesis)
5. Blocking IL-10 signaling in dendritic cells can be used as a topical therapeutic tool to increase Th1/Tc1 effector responses against *Leishmania major* without affecting the generation of T cell memory essential for protection against reinfection. (This thesis)
6. Fulfilling the longstanding promise of efficient dendritic cell vaccines critically depends on a better understanding of the molecular control and the functional specialization of dendritic cell subsets for their specific in vivo targeting.
7. Commensal microbiota control the maintenance and function of dendritic cells, and thereby immune homeostasis at epithelial interfaces to the environment.
8. Our high-fat, high-cholesterol and high-carbohydrate Western-type diet lies at the basis of the increased incidence of chronic disorders such as celiac disease, cancer, type-I diabetes and cardiovascular disease. To limit the tremendous treatment costs to society, we should all adopt a French diet of fat-free cheese and alcohol-free red wine.
9. Although slow and complex by nature, basic research is the backbone of mechanistic insights and new discoveries that eventually lead to improved therapeutic interventions for the benefit of the patients. Notwithstanding this common knowledge, during my PhD thesis funding priorities in biomedical research have been considerably redirected towards translational research for the sake of short-term financial benefit.
10. Gender and race are easily visible differences between humans and therefore convenient ways of discrimination, in particular at economically difficult times. In the Netherlands in 2008, although 41.9% of PhD students were female, only 11.7% (6.6% in the Erasmus University Rotterdam) of professorships were held by women and the latter is likely to further decline in the near future. (Numbers are from Stichting De Beauvoir)
11. Discrimination on the basis of race, gender, religion or sexual orientation becomes obsolete in view of the fact that humans are composed of ten times more commensal bacteria than human cells.

**Mathilde Girard-Madoux**