

WP6: Establishment of a screening platform for allergy and infectious diseases

Primary immunodeficiency diseases in humans consist of a group of more than 100 diseases with defects in innate and adaptive immune responses, often caused by mutations in genes critical for immune cell development and effector function and homeostatic regulation of the immune system. We developed five primary and primary extended screens to aid the identification of disease models. The primary screens including a nine fluorescence parameter FACs analysis to monitor the presence of the most important immune effector cells, and a new protocol for immunoglobulin isotyping. Three primary extended screens were also developed that permit the characterisation of macrophage functions in mice. Interestingly, validation of the SOPs on inbred strains revealed some surprising differences in some of the immunological parameters and macrophage responses between strains and sex in the course of *Listeria monocytogenes* infection¹.

¹ Pasche, B., Kalaydjiev, S., Franz, T.J., Kremmer, E., Gailus-Durner, V., Fuchs, H., Hrabé de Angelis, M., Lengeling, A. and Busch, D.H. (2005): „Sex dependent susceptibility pattern to *Listeria monocytogenes* infection is mediated by differential IL-10 production“. *Infect. Immun.* **73**, 5952-5960.