WP15: Necropsy exam, pathology, histology

Pathology, the systematic detection and analysis of organ and tissue alterations in adult and ageing mutant mice is a vital component of mouse phenotyping strategies. We have devised a primary histopathological screen in order to detect the broadest array of tissue abnormalities in a mouse and to correlate them with underlying mutations. The protocol recommends the analysis of groups of 24 mice (equal numbers of male and female and of mutant and wild types) that are divided into two sub-groups. The first, smallest sub-group consisting of mutant mice is subjected to a systematic high-throughput histological analysis of hematoxylin and eosin-stained sections of each of 40 organs. The second and largest group comprising the remaining mice and the majority of the control mice are subject to a systematic necropsy and to a targeted histological screen. Mutant organs in which morphological defects are diagnosed are then forwarded to a primary extended assays involving the analysis of organ volumes, the use of organ and pathology-specific strains and/or the detection of cell proliferation and cell death.