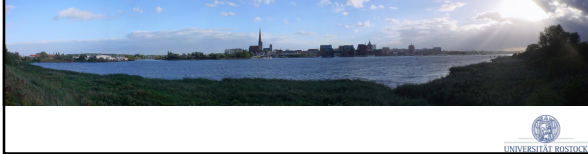


The Genetics of osteoarthritis in STR/ort mice

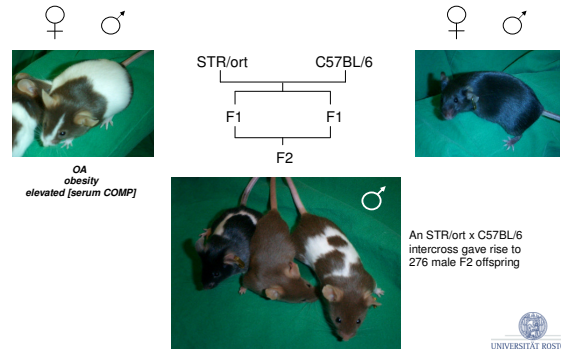
Brigitte Müller-Hilke

Institute of Immunology, University of Rostock,

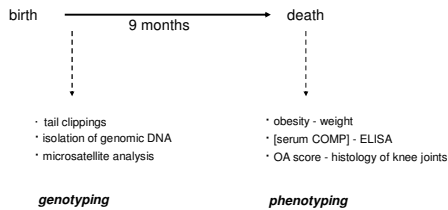
email: brigitte.mueller-hilke@med.uni-rostock.de



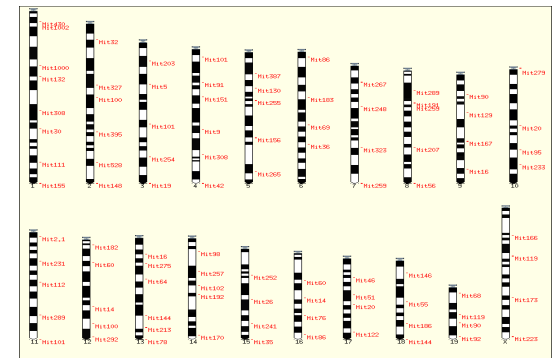
STR/ort mice spontaneously develop OA



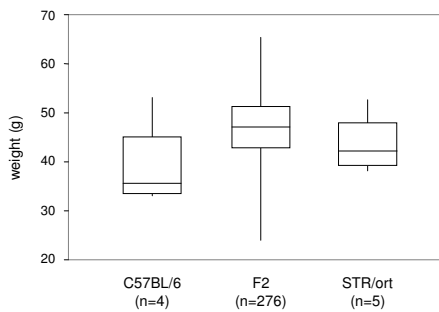
The microsatellite analysis included geno- and phenotypic analyses



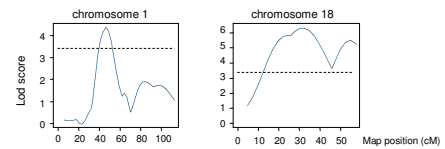
96 informative microsatellites were used for genotyping



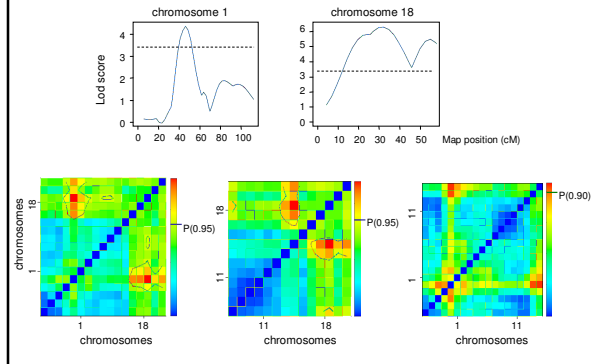
Body weight in the F2 generation exceeds both parental strains



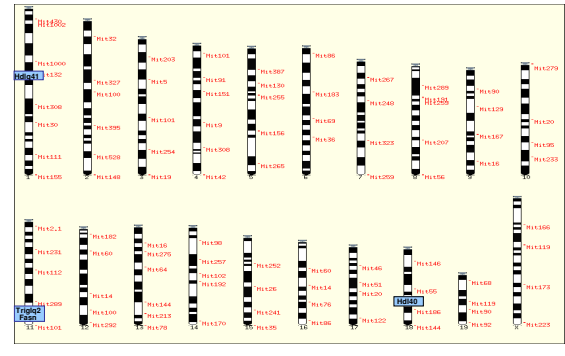
The single-QTL analysis identifies two weight-QTL on chromosomes 1 and 18



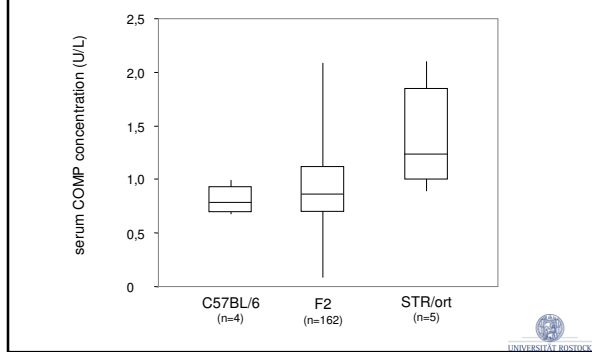
The two-QTL analysis identifies three interacting pairs of weight-QTL on chromosomes 1, 11 and 18



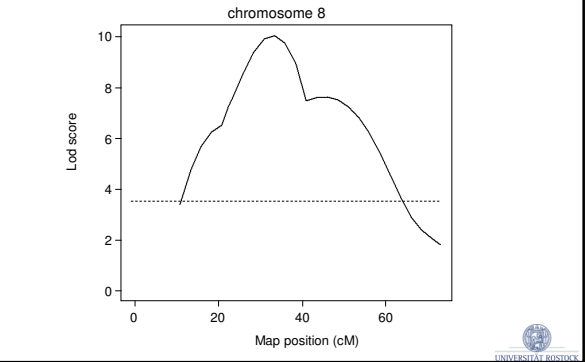
Positions of the weight-QTL in STR/ort mice



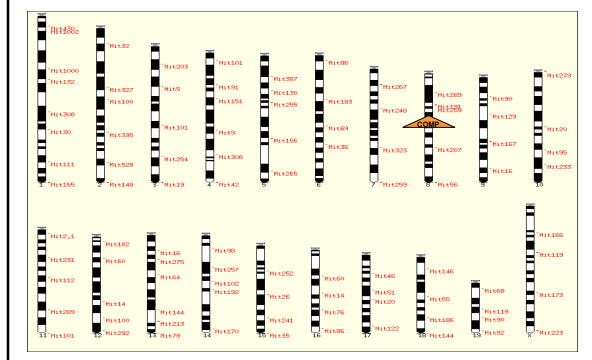
Serum COMP concentrations in the F2 progeny suggest Mendelian inheritance



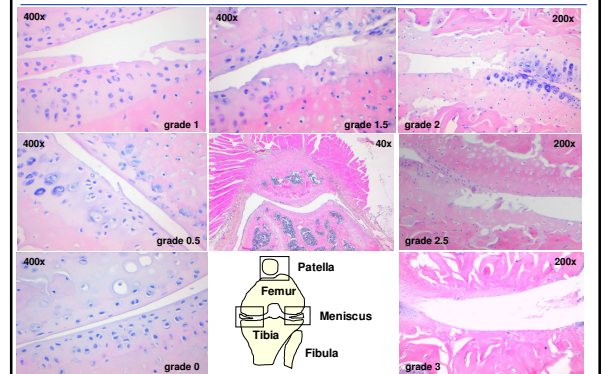
The single-QTL analysis identifies one COMP-QTL on chromosome 8 (at 33.5 cM)

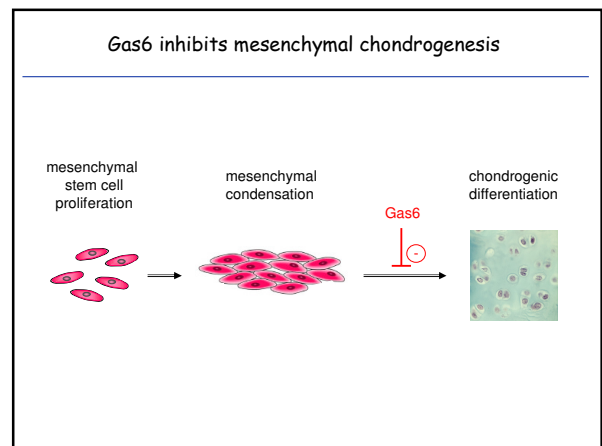
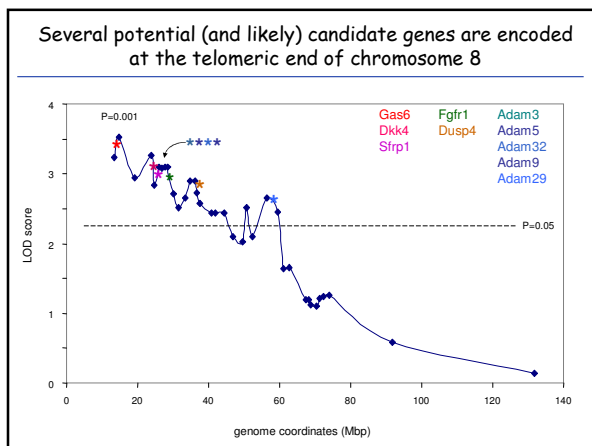
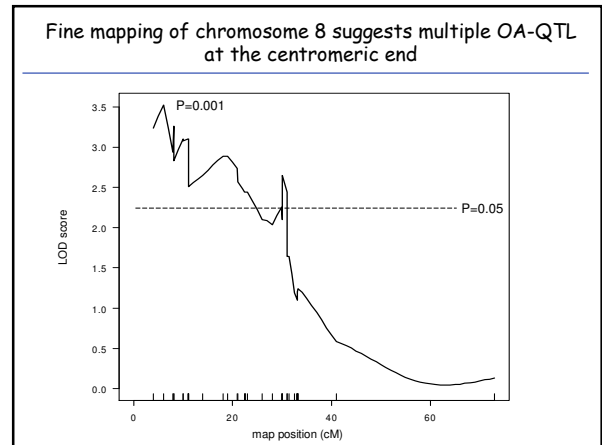
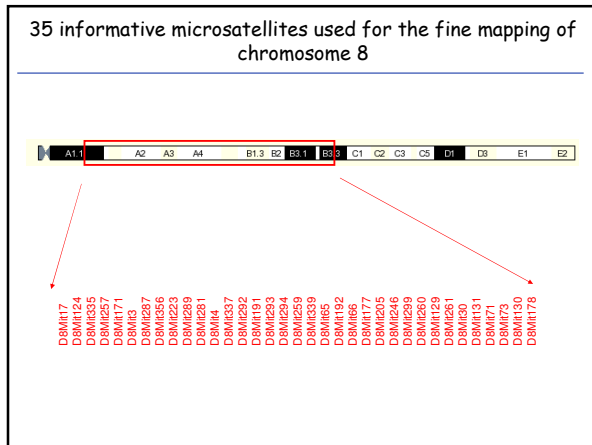
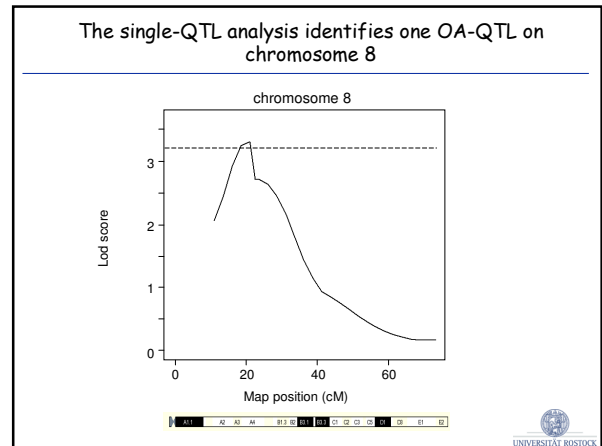
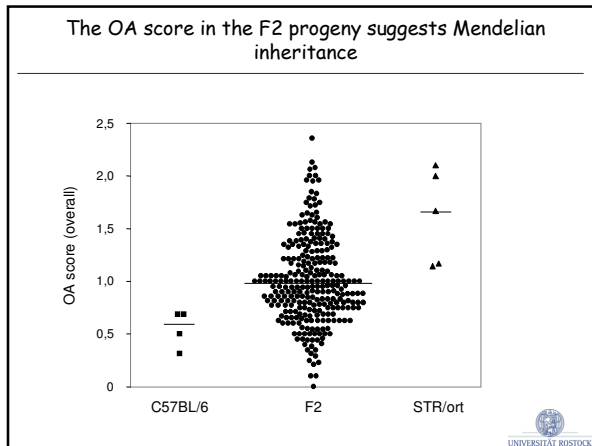


Position of the COMP-QTL in STR/ort mice

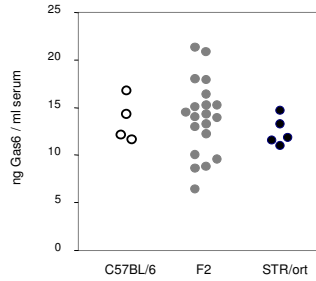


Joint scores were determined via histological grading

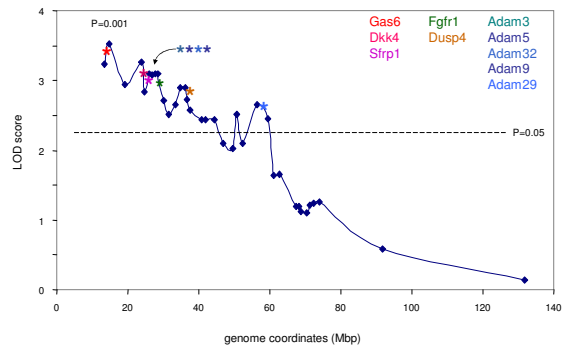




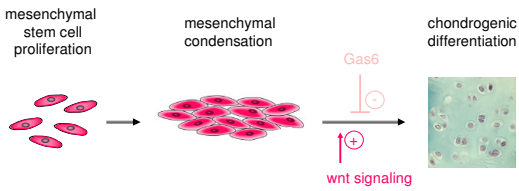
Gas6 expression in STR/ort and C57BL/6 mice is comparable



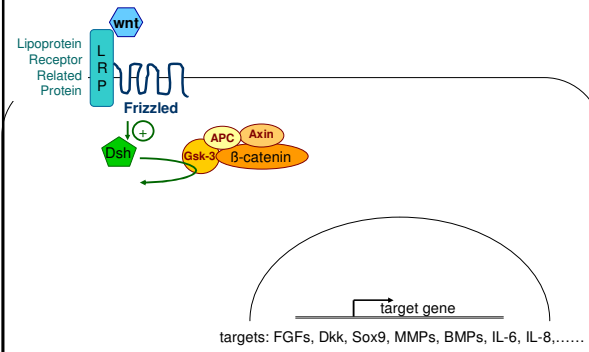
Several potential (and likely) candidate genes are encoded at the telomeric end of chromosome 8



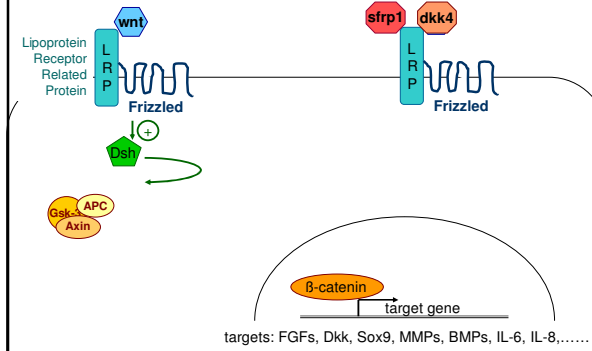
Wnt signaling promotes mesenchymal chondrogenesis



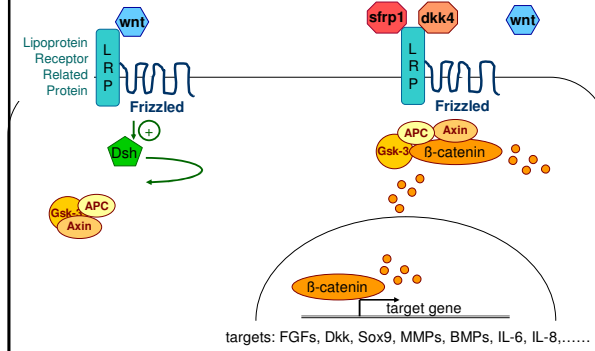
wnt signaling leads to the nuclear translocation of β -catenin



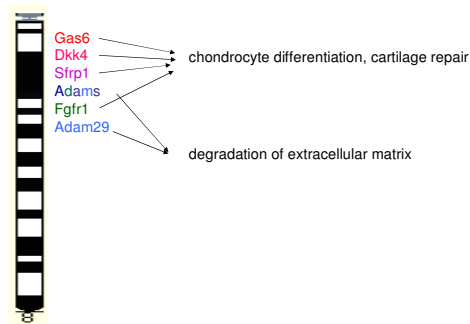
wnt antagonists sfrp1 and dkk4 lead to β -catenin degradation



wnt antagonists sfrp1 and dkk4 lead to β -catenin degradation



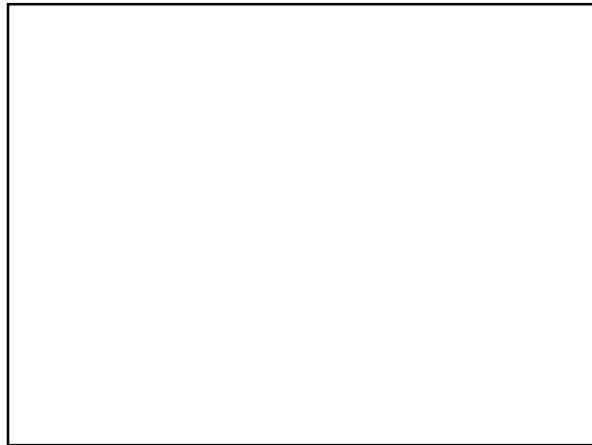
Murine osteoarthritis is likely to result from alterations in chondrocyte differentiation, cartilage repair and matrix degeneration



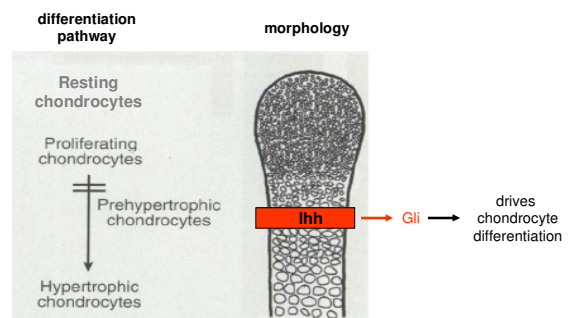
The Genetics of osteoarthritis in STR/ort mice

University of Rostock: Juliane Pasold
Kathrin Jäger
Christin Selent
Wiebke Jähme
Sandra Mahr
Brigitte Vollmar

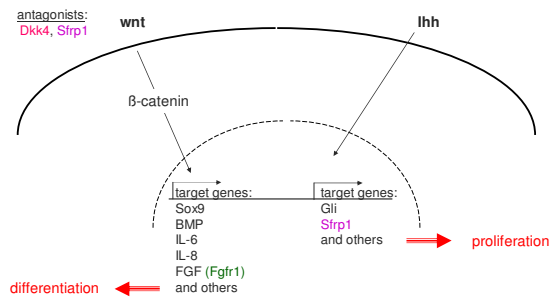
Contact Software: Udo Göbel



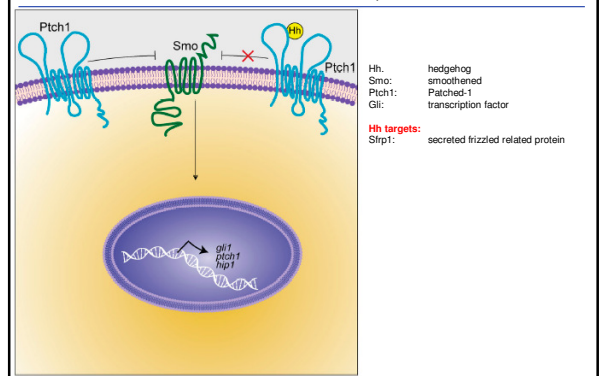
Indian hedgehog (Ihh) signaling controls cartilage differentiation



Hh and wnt signaling pathways control cell proliferation, differentiation and tissue repair



Wnt and Hh signaling pathways control chondrocyte differentiation from mesenchymal stem cells



the wnt signaling pathway regulates the chondrocyte metabolism

