

**P004** Characterization of inducible *riCTOR* knockout mouse embryonic fibroblasts

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The mammalian target of rapamycin (mTOR) is an evolutionary highly conserved Ser/Thr kinase that is centrally involved in the control of cell growth, proliferation and metabolism. mTOR functions in one of two distinct multiprotein complexes, named mTOR Complex 1 (mTORC1) and mTORC2. In contrast to rapamycin-sensitive mTORC1, mTORC2 is rapamycin-insensitive and contains mTOR, rictor, mLST8 and hSIN1. Full body ablation of any component of mTORC2 is embryonic lethal. mTORC2 phosphorylates Ser473 in the hydrophobic motif of Akt/PKB and has also been implicated in regulation of actin organization. However, the molecular mechanism by which mTORC2 controls actin cytoskeleton dynamics is not understood. To circumvent the rapamycin insensitivity of mTORC2 and obtain insight into the TOR signalling branch mediated by mTORC2, we established an inducible *riCTOR* knockout mouse embryonic fibroblast (MEF) cell line. This cell line contains floxed *riCTOR* alleles and a stably expressed, tamoxifen-inducible Cre recombinase. Addition of tamoxifen to the cells leads to efficient and stable knockout of *riCTOR*. We will describe the characterization of this cell line. Our results suggest that mTORC2 controls actin organization and directed cell migration through the regulation of RhoGTPase activity.