**The role of PBRM1 gene in clear cell renal cell carcinoma**

The most important tumor suppressor genes mutated in clear cell renal cancer (RCC) include PBRM1, VHL, BAP1, and SETD2. VHL is the most common gene with a mutation (80% of cases), while PBRM1 is the second most common (50% of cases). While VHL was studied extensively in recent years, the role of PBRM1 remains largely unknown. Here, in a collaboration between the Semmelweis University and the Research Centre for Natural Sciences we identified those genes which show an altered expression in response to a somatic mutation or copy number alteration of the PBRM1 gene. Of these, AOX1, SLC22A24, REN and EFNA2 genes are also correlated to overall survival in RCC patients. These top genes are promising therapy targets in patients where an RCC tumor harbors a PBRM1 mutation. Validation of the findings in clinical samples is still in progress. In summary, we identified a sub-cohort of RCC patients presenting a new set of targetable genes.