

## **Abstract (English)**

TPR is a large nucleoporin located in the nuclear basket of the nuclear pore that was proposed to form nucleoskeleton. It interacts with exported molecules, components of the nuclear lamina, and the nuclear interior, positioning itself strategically to facilitate connections between various cellular processes. Our findings offer detailed insights into the distribution of TPR within the nucleus and the nature of TPR nucleoskeletal filaments. Furthermore, we enhance our understanding of TPR's function in the context of nuclear pore complexes (NPCs) as central hubs for transcriptional regulation.

Through ChIP-seq analysis, we uncover TPR's association with lamina-associated domains within chromatin. Intriguingly, we demonstrate that unlike lamin, TPR exerts a positive influence on genes involved in myogenesis. We further report that LSD1 forms a complex with TPR and takes a part in the regulation of the TPR associated genes. Finally, our data demonstrate that depletion of TPR adversely affects myogenic differentiation, underscoring its crucial involvement in essential cellular processes.