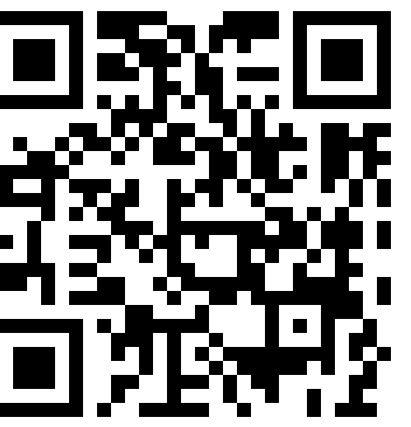
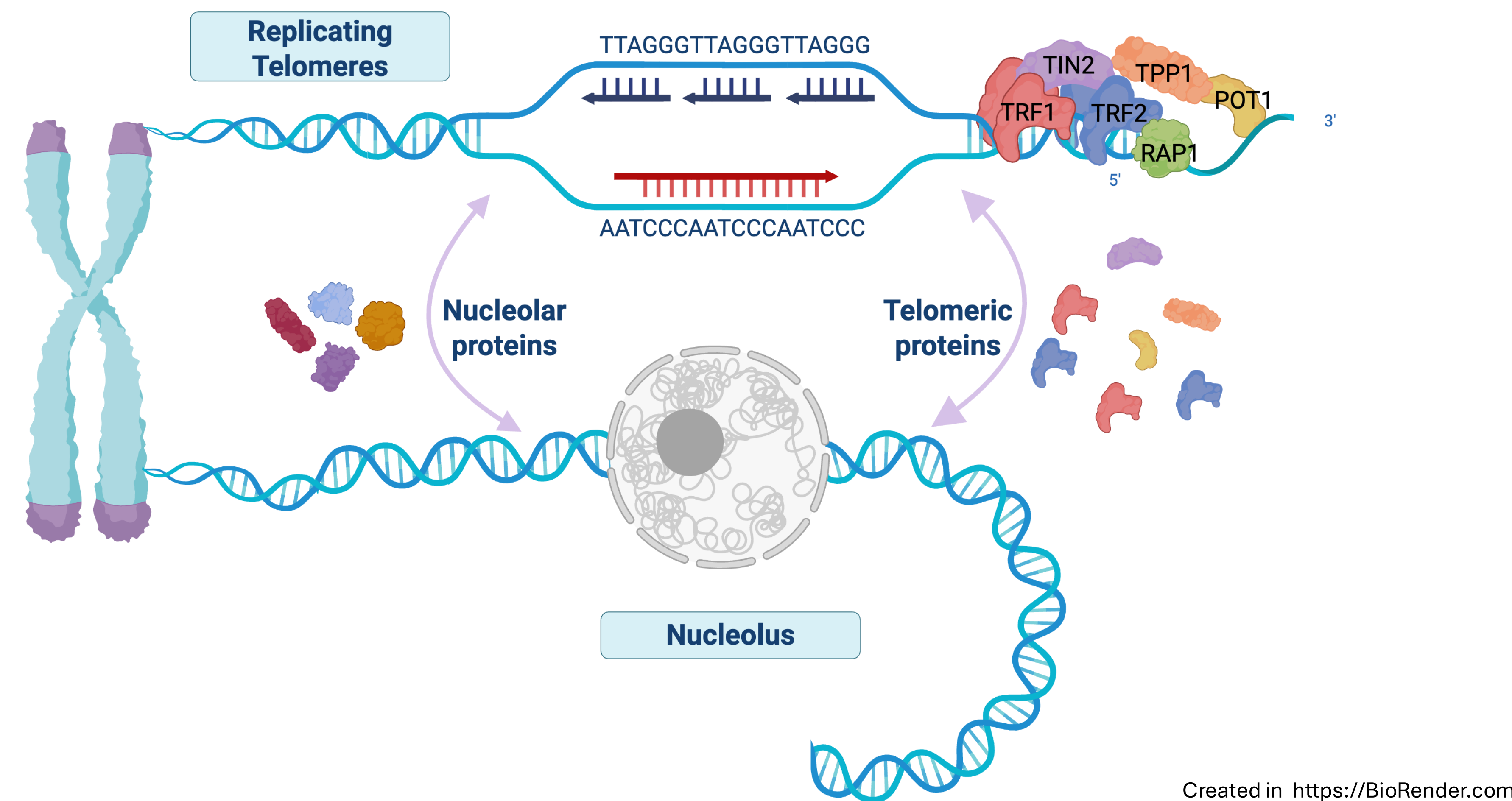




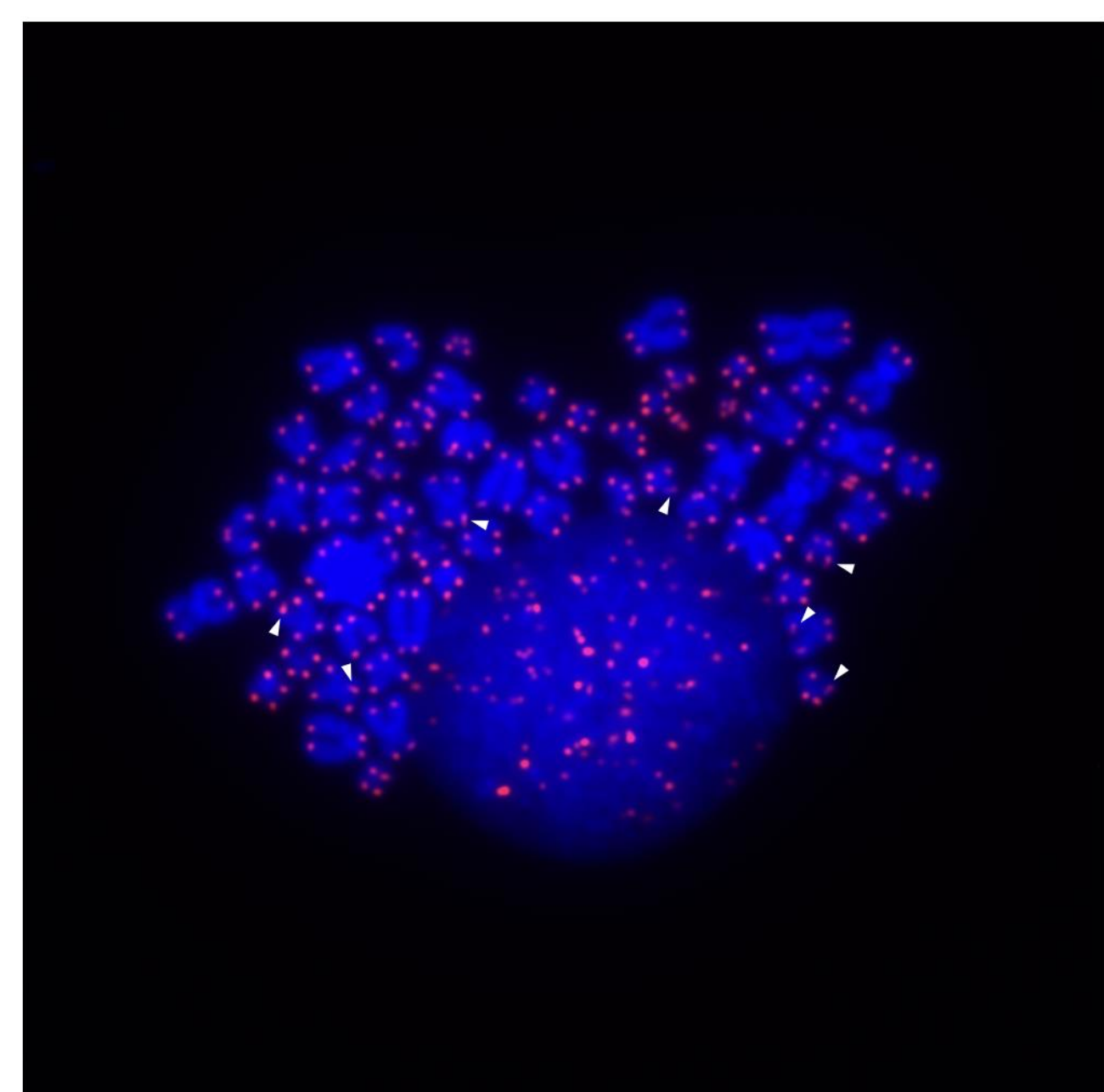
At the forefront of ageing and molecular medicine, our lab focuses on unraveling the biological mechanisms that drive ageing. By integrating multi-omics technologies, we explore the complexity of ageing at multiple levels—from genes to systems biology. Our goal is to generate insights that pave the way for molecular and precision medicine. Through innovative research and a commitment to scientific excellence, we strive to expand the frontiers of knowledge and contribute to healthier ageing.

The interplay between telomeres and nucleoli during DNA replication

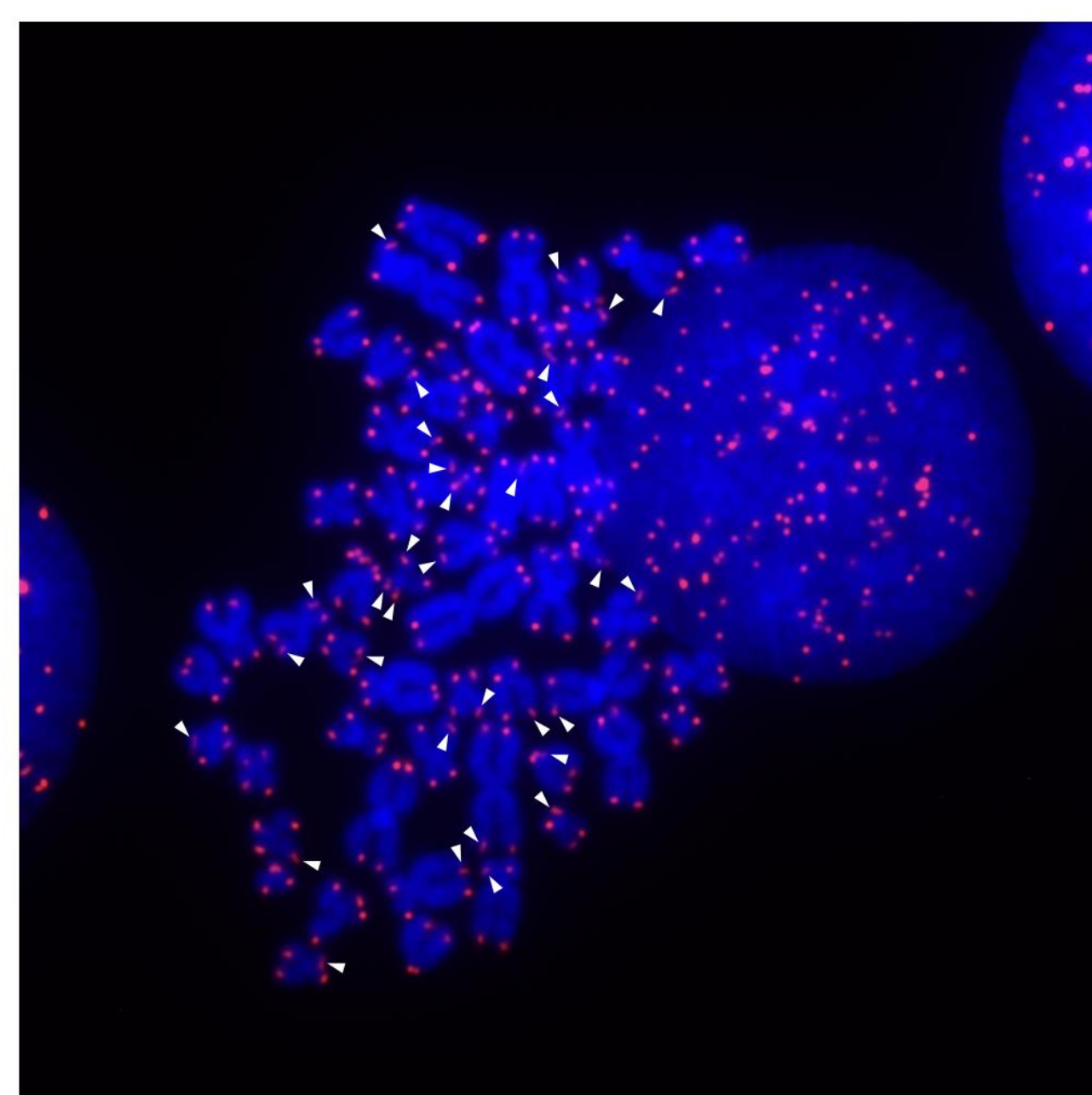


- Telomere and nucleolar function are closely linked to ageing and the development of various diseases.
- We have identified several nucleolar proteins that may play key roles in telomere replication.
- Our current research investigates how these nucleolar proteins contribute to telomere replication.
- We are exploring how telomere–nucleolus interactions are regulated during the DNA replication process.
- Our goal is to clarify how telomere–nucleolus communication supports genome integrity and contributes to cellular ageing.

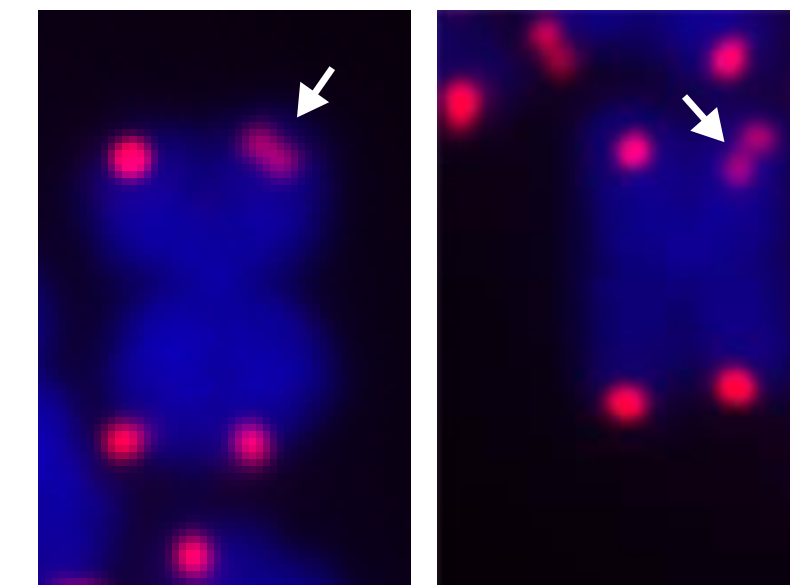
Control



siTRF1



Telomere fragility analysis



Telomere fragility analysis aims to identify telomeres exhibiting morphologies associated with defects in semi-conservative replication.

(Chih-Yi Gabriela Lin et al., 2021)

Mechanism on Small-Activating RNA

Unlike small interfering RNA (siRNA), which targets mRNA for degradation in the cytosol, small activating RNA (saRNA) enhances RNA expression in the nucleus through an as-yet-unclear mechanism. Our lab collaborates with MiNA Therapeutics, a leading UK-based biotech company specializing in saRNA, to investigate its mechanism of action and explore its potential applications in drug discovery.

