



**RNA Innovation Seminar**  
**Thursday, May 18th at 4:00pm**  
**Michigan League, Michigan Room Second Floor**

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**“The Long and Short of Human TPP1”**

**Abstract:**

*Human telomeric DNA is protected by a six-membered protein complex comprised termed shelterin. Shelterin protects telomeric DNA from being recognized by the DNA damage machinery, while the ribonucleoprotein telomerase extends chromosome ends to counteract telomere attrition that occurs during DNA replication. The shelterin protein TPP1 not only helps protect chromosome ends, but it is also responsible for recruiting telomerase to telomeres for successful end replication. We have discovered that the gene for human TPP1 encodes two protein isoforms with contrasting telomeric functions. Additionally we have found that these isoforms are regulated by an intragenic noncoding RNA that specifically silences the longer isoform, but not the shorter isoform, of TPP1. Our work examines how hTPP1 is regulated to achieve telomere length homeostasis in dividing human cells.*