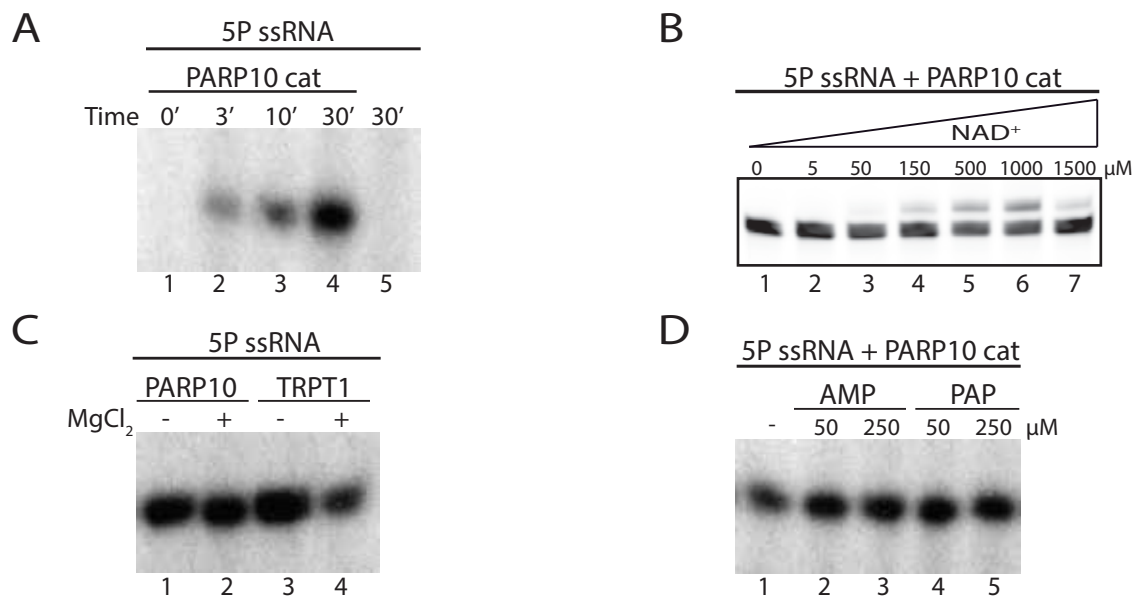
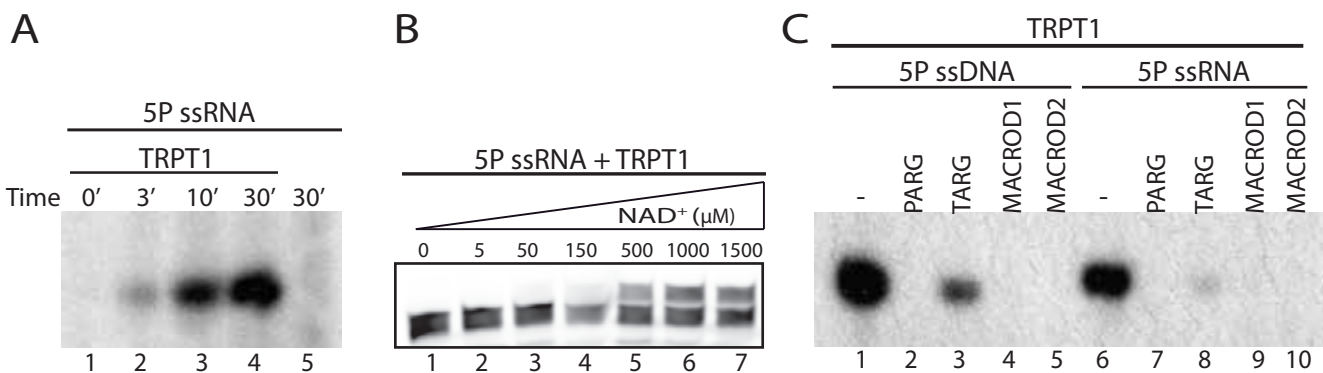


## Supplementary Figure 1.



Supplementary Figure 1. ADP-ribosylation of 5' phosphorylated RNA end mediated by PARP10 cat is dependent on (A) time and (B) NAD<sup>+</sup> concentration. (C) ADP-ribosylation of 5' phosphorylated RNA end in presence or absence of MgCl<sub>2</sub> in buffer. ADP-ribosylation is catalysed by PARP10 or TRPT1. (D) PARP10 cat mediated RNA ADP-ribosylation in presence of adenosine mono-phosphate (AMP) or 3'-phosphoadenosine 5'-phosphate (PAP).

## Supplementary Figure 2.



Supplementary Figure 2. ADP-ribosylation of 5' phosphorylated RNA end mediated by TRPT1 is dependent on (A) time and (B) NAD<sup>+</sup> concentration. (C) DNA and RNA ADP-ribosylation by TRPT1 can be reversed by known human hydrolase such as PARG, MACROD1 and MACROD2. TARG1 also weakly removes ADP-ribosylation.