

# School of Life Sciences Seminar Series

Thursday  
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## Online seminar

- Zoom ID: 315 451 8934 ( Password: 101320 )



## Respiratory Complex directed mitochondrial translation revealed by mito-RNAi



연사

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Host

심해홍 교수



언어: English

### 학력

2011 Ph.D., College of Life Sciences, Wuhan University

2006 B.S., College of Life Sciences, Northwest Normal  
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### 경력

2014 - 현재 Professor, Key Laboratory of RNA Biology,  
Institute of Biophysics,  
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2011-2014 Research Assistant, College of Life Sciences,  
Wuhan University

### Abstract

Small RNAs are well known to mediate translational repression and/or mRNA degradation in the cytoplasm. Various microRNAs have also been detected in membrane-compartmentalized organelles, but the functional significance has remained elusive. Previously, we reported that microRNA and Argonaute protein efficiently imported into the mitochondria and regulate mitochondrial gene expression (Cell, 2014). We also reported that siRNAs were not only able to enter the matrix of mitochondria, but also function to specifically silence targeted mitochondrial transcripts (Cell Research, 2020). Using Mito-RNAi, we investigated the direct contribution of mtDNA-encoded gene products to the coordinated assembly of respiratory chain complexes, unexpectedly revealing Respiratory Complex directed mitochondrial Translation. These findings demonstrate an active RNAi system within the mitochondrial matrix and extend the concept of mitochondrial translational plasticity previously established with imported nDNA-encoded subunits to mtDNA-encoded components to achieve epistatic regulation of a respiratory complex.