3. Aims and Objectives

3.1. RATIONALE OF HYPOTHESIS

Mitochondria are semiautonomous organelle. The organelle is regulated by nuclear genome and its own circular DNA. The mitochondria import numerous non coding RNAs for their optimal functions.

The microRNA are class of small non coding RNA that fine tunes protein levels at narrow physiological range. The mitochondria require fine tuning of both: the nuclear encoded mitochondrial targeted proteins and mitochondrial genome encoded proteins.

The mitochondria are in dynamic contact with nascent mRNA and miRNA enriched membrane less bodies. The mitochondria and miRNA are enriched in critical cellular loci that require instantaneous energy supply and homeostasis. The association of miRNA with mitochondria is emerging. However, no systematic analysis was performed to elucidate extent of miRNA association with mitochondria and regulation of its function in cell death. Hence the following objectives were proposed:

3.2. OBJECTIVES

1. Identification of miRNA associated with mitochondria.

2. Spatio-temporal localization of screened miRNA(s) with mitochondria in cell death.

3. To identify the functional impact of mitochondria associated miRNA(s).