CHAPTER 6: CONCLUSION
6. Conclusion.

In this thesis work, I have characterized two critical functional properties of the ORF2 protein. Although, the results might not be extrapolated to a natural infection system, however, the results define that the observed phenomena are specific property of the ORF2 protein. Further, this work identifies a possible regulatory role of the ORF2 protein during natural course of infection besides forming the capsid of the virus and encapsidating the genomic RNA. The summary of results is outlined below.

- ORF2 protein binds to the 5' end (130-250 nucleotides) of the genomic RNA.
- ORF2 protein induces ER stress when expressed in mammalian cells which depends on its ability to cotranslationally translocate into the ER.
- ORF2 protein is capable of retrotranslocation from the ER to the cytoplasm independent of ubiquitination but dependent on the glycosylation status of the protein.
- Retrotranslocated, cytoplasm localized ORF2 protein is stable and functionally active.
- ORF2 protein binds to the F box protein β TRCP.
- Cytoplasm localized ORF2 protein inhibits NF-κB activity and downregulates the expression of NF-κB targets.