**Construct Development:**

Ricin and RCA are the two toxic proteins found in the endosperm tissue of castor seeds and the presence of these proteins renders the de-oiled castor meal not useful as animal feed in spite of containing about 25% balanced protein. As the sequences of these genes are already available and as they share a high percentage of homology, it is envisaged that these proteins could be eliminated through DNA directed PTGS approaches. Different PTGS vectors based on three approaches of gene silencing, *viz*., antisense, intron interrupted RNA and silencing by 3' heterologous UTR, targeting either the A chain or the B chain of ricin and RCA were developed, confirmed and these cassettes have been transferred to *Agrobacterium* strain LBA 4404 for transforming castor. All the PTGS vectors based on ihp-RNAi and transitive RNAi required for silencing ricin and RCA genes in castor developed using the isolated ricin promoter as well as 35S promoter. AmiRNA based vectors developed to silence ricin and RCA using the conserved sequences of ricin and RCA genes. To direct silencing process only to happen in endosperm, promoter driving ricin gene expression was isolated using inverse-PCR technique. Ricin promoter analysis using *gus* expression system in tobacco indicated the endosperm specific expression pattern of the isolated promoter.