



to cleave this sequence. Different CRISPR-Cas systems have been grouped majorly into three types and sub-types depending on diverse bacterial and archeal repeat sequences, as genes, and their mode of action. Type I and III systems share a common mechanism of processing of pre-crRNAs via specialized Cas endonucleases, and on maturation, each crRNA complex with multi-Cas protein is capable of recognizing and cleaving target sequences which are complementary to crRNA. In contrary to this, Type II system is considered the heart of genome engineering tool because it involves reduced number of Cas enzymes. The CRISPR/Cas9 system is preferred over the ZNFs and TALENs because of many advantages [6]. Firstly, the target design process is simpler for CRISPR as it depends upon the Ribo-nucleotide complex formation instead of DNA recognition. It can be designed easily and it is much cheaper than designing nucleases as this does not need different proteins for each target and eliminates laborious cloning steps. This can be used to target any specific sequence in the genome. The CRISPR system is much more efficient than ZFNs and TALENs. The RNA encoding Cas protein can be injected directly for modifying the host genome. It is not so lengthy and laborious process as