

Engineering Embryos Using CRISPR-Cas9, Scientific and Ethical Considerations

CRISPR (Clustered Regularly Interspaced Short Palindromic Repeat) is one of the hallmark of biological tools, contemplated as a valid and hopeful alternatives to genome editing. Advancements in CRISPR-based technologies have empowered scientists with an editing kit that allows them to employ their knowledge for deleting, replacing and lately “Gene Surgery”, and provides unique control over genes in broad range of species, and presumably in humans. These fast-growing technologies have high strength and flexibility and are becoming an adaptable tool with implementations that are altering organism’s genome and easily used for chromatin manipulation. In addition to the popularity of CRISPR in genome engineering and modern biology, this major tool authorizes breakthrough discoveries and methodological advancements in science. As scientists are developing new types of experiments, some of the applications are raising questions about what CRISPR can enable. The results of evidence-based research strongly suggest that CRISPR is becoming a practical tool for genome-engineering and to create genetically modified eukaryotes, which is needed to establish guidelines on new regulatory concerns for scientific communities.