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Final Paper Outline

**Thesis statement:**

Genetic engineering and biotechnology companies should be regulated by strict ethical guidelines to prevent the misuse and abuse of gene editing, cloning, and patenting technologies

**Breakdown of Paper:**

I. Introduction

A. Brief overview of genetic engineering and biotechnology: The ethical concerns in genetic engineering and biotechnology companies are complex and multifaceted, encompassing issues related to gene editing, cloning, and the patenting of genetic material.

B. Statement of the thesis and its significance

II. Gene Editing and Ethical Concerns

* Discussion and introduction of gene editing technologies like CRISPR-Cas9
* Ethical concerns related to human gene editing
* Potential consequences of modification of the human genome
* Evidence: The Stanford Center for Law and the Biosciences highlights that cloning may challenge our traditional understanding of family and identity, posing ethical questions about the nature of parenthood and relationships.

III. Cloning and Its Moral Implications

* Explanation of cloning techniques
* Ethical questions surrounding cloning (particularly human cloning)
* Evidence: In a study published in the Journal of Medical Ethics, Green, et al. discuss the psychological impact of cloning technologies, highlighting concerns about the potential for identity confusion and the ethical implications of creating genetically identical individual.

IV. Patenting Genetic Material in Biotech Firms

* The role of patents in biotechnology
* Moral challenges associated with the business-related ownership of genetic data
* Finding a balance between biotech patent innovation and accessibility
* Evidence: The article "Genetic Patenting and Patient Access to Testing" delves into the ethical implications of genetic patenting, specifically addressing its consequences on patients' ability to access genetic testing.

V. Counter-Argument: Benefits and Advancements

* Presentation of the opposing view that the benefits of genetic engineering and biotechnology outweigh ethical concerns
* Examples of medical breakthroughs and advancements attributed to these technologies
* Examine of whether the ends justify the means
* Evidence: The World Health Organization reports that gene editing technologies offer promising avenues for treating and preventing genetic diseases, underscoring their potential positive impact on global health.

Some argue that the potential medical and scientific advancements achieved through gene editing, cloning, and patenting.

VI. Conclusion

* Recap of key ethical concerns in genetic engineering and biotech
* Emphasis on the importance of ethical discussions and regulatory frameworks
* Final thoughts on balancing innovation and morality in this field

# Bibliography

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