

HUMAN GENOME PATENT POLICY: A SEQUENTIAL INVENTION APPROACH
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Abstract

This paper addresses the controversial question of issuing patents on human genome sequences. Data on 1,770 recently issued U.S. patents with DNA sequence claims are summarized. The prominent roles of academic institutions and new high-technology ventures are identified. The special theoretical problems associated with sequential inventions, i.e., when DNA sequencing leads to the discovery of proteins which in turn leads to therapeutic applications, are analyzed. So also is the important distinction between the prospect theory of patent protection and the rent-seeking theory. From the theory and empirical evidence, the paper infers that some "upstream" research would be probably discouraged by a policy that requires strong evidence of therapeutic utility for DNA sequence claims, but the negative consequences are unlikely to be severe. The paper concludes with an exploration of means to ensure that "downstream" research is not discouraged by strong patent protection for DNA sequence patents accompanied by appropriate therapeutic utility claims.

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