

Morton in Daily Journal: AI Meets the Life Sciences

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PRACTICES Biotechnology, Patents, Life Sciences, AI and Deep Learning

Haynes Boone Partner [Jeff Morton](#) authored an article for *Daily Journal* after recent developments in artificial intelligence, where the new technology is revolutionizing life sciences, predicting protein structures, diagnosing conditions, and analyzing genetic predispositions. However, patent law challenges like inventorship and eligibility need attention.

Read an excerpt below.

Artificial intelligence (AI) continues to play an increasingly prominent role in life science-related inventions. In the life sciences, AI has been used successfully to predict three-dimensional structures of therapeutic proteins, analyze a patient's genetic predisposition to efficacy across a panel of possible therapeutic treatments, and diagnose medical conditions based on an intricate panel of increasing and/or decreasing biomolecular markers.

These advancements are incredibly valuable; as such, securing meaningful patent protection is critical for the owners of these technologies. Against this backdrop of technological advancement are nuanced issues found in patent law that need to be considered, including how inventorship of AI-derived inventions is treated; how AI influences patent subject matter eligibility; and how AI-generated data can be used effectively in life science-related inventions.

I. Inventorship

A key issue that has been raised based on the role that AI is playing in the invention process is how to address inventorship. The United States Patent and Trademark Office (USPTO) and the United States Court of Appeals for the Federal Circuit have both ruled that inventors listed on a patent application must be natural persons. *See, e.g., Thaler v. Vidal*, 43 F.4th 1207 (Fed. Cir. 2022). This is consistent with the vast majority of the world's leading patent jurisdictions, which have taken the same view that an inventor cannot be AI *per se*. For example, the European, United Kingdom, Canadian, and Chinese patent offices have all confirmed that a patent inventor must be a natural person.

II. Patent Subject Matter Eligibility

The inclusion of AI with traditional life science inventive concepts also results in some complexity in terms of what is and what is not considered to be patentable subject matter. Most recently, on July 17, 2024, the USPTO issued a *Guidance Update on Patent Subject Matter Eligibility, Including on Artificial Intelligence* (Ref) ("*Guidance*"). The *Guidance* provides an up-to-date summary of how patent subject matter eligibility should be examined by Patent Examiners.

Step 1 of the USPTO's subject matter eligibility analysis addresses whether the claimed invention falls into at least one of the four categories recited in 35 U.S.C. 101, namely a process, machine, manufacture, or composition of matter. Step 2 of the USPTO's subject matter eligibility analysis applies the Supreme Court's two-part framework in *Alice/Mayo* to identify claims that are directed to a judicial exception and to then evaluate if additional elements of the claim provide an inventive concept. *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. 208 (2014) and *Mayo Collaborative Servs. v. Prometheus Lab'ys. Inc.*, 566 U.S. 66 (2012). The *Guidance* provides a thoughtful analysis of

how to carry out the nuanced Step 2 analysis. The Guidance also provides three examples of claims that are helpful to patent practitioners when they are drafting and prosecuting patent applications and wish to have insight into the types of claims that may or may not be patent-eligible.

To read the full article in *Daily Journal*, click [here](#).