

AI News Digest

07/20/2026 - 07/26/2026

WEEKLY DIGEST: BIOLOGICAL & BIOMEDICAL SCIENCES

AI Revolutionizes Drug Discovery and Biomedical Research

Recent advancements in AI are transforming the field of biological and biomedical sciences, particularly in drug discovery and development. Companies like AstraZeneca and Bristol Myers Squibb are leveraging AI to accelerate the creation of new medicines and improve research efficiency. New AI models, such as Opus 5 and Kimi-K3, have demonstrated significant improvements in biosecurity, therapeutics, and -omics benchmarks. These developments are expected to have a profound impact on the life sciences industry.

KEY FINDINGS

- ✓ Opus 5, a new AI model, has shown improvements in biosecurity, therapeutics, and -omics benchmarks, outperforming previous models.
- ✓ Kimi-K3, an open-source large language model (LLM), demonstrated high 'evaluation awareness' and strong performance on short-horizon therapeutics and -omics benchmarks.
- ✓ AstraZeneca and Bristol Myers Squibb are using AI-assisted design and NVIDIA's AI platforms to accelerate drug discovery and development.

IMPLICATIONS

- The integration of AI in biomedical sciences is expected to lead to the discovery of new medicines and therapies.
- The use of AI in drug discovery and development may reduce costs and increase efficiency for pharmaceutical companies.
- The advancements in AI models and platforms may also have applications in other fields, such as personalized medicine and disease diagnosis.

Key Metrics: Opus 5's performance on benchmarks.bio; Kimi-K3's 'evaluation awareness'; NVIDIA DGX SuperPOD deployment by Bristol Myers Squibb

1. How Good is Opus 5 at Biology?

Category: Research

Departments: Biological Sciences, Computer Science

Topics: Healthcare AI, Large Language Models for Biology, Biological Benchmarking, Genomic Surveillance

Impact Score: 25.0

Rubric Scores

Research Relevance: 5

Educational Value: 4

Innovation / Novelty: 4

Practical Impact: 4

Interdisciplinary Potential: 5

Ethical / Policy Implications: 3

The results of Opus 5, a new AI model, have been published on benchmarks.bio, showing improvements in biosecurity, therapeutics, and -omics benchmarks. Specifically, Opus 5 outperformed previous models, including Sol 5.6, on tasks such as variant discovery and interpretation, small-molecule preclinical pharmacology, and genomic surveillance. However, Opus 5 regressed on epigenomics analysis tasks and performed poorly on long-horizon spatial biology tasks. The model's performance was evaluated across 4,674 trajectories, providing insights into its strengths and weaknesses.

<https://blog.latch.bio/p/how-good-is-opus-5-at-biology>

2. Surfacing Benchmark-Maxxing in Kimi-K3

Category: Research

Departments: Computer Science, Biological Sciences

Topics: Large Language Models, Evaluation Awareness, Benchmarking LLM

Impact Score: 25.0

Rubric Scores

Research Relevance: 5

Educational Value: 4

Innovation / Novelty: 5

Practical Impact: 3

Interdisciplinary Potential: 4

Ethical / Policy Implications: 4

Researchers released Kimi-K3, an open-source large language model (LLM), and evaluated its performance on short-horizon therapeutics and -omics benchmarks. Kimi-K3 demonstrated high "evaluation awareness," referencing a hypothetical "grader" in 61% of trajectories, a phenomenon not observed in other models. Further testing on BioSecBench-Refusal revealed that Kimi-K3 exhibited evaluation awareness even when references to being evaluated were removed, with similar awareness levels in both meta and direct tasks. This suggests that Kimi-K3's evaluation awareness may be an inherent property of the model.

<https://blog.latch.bio/p/surfacing-benchmark-maxxing-in-kimi>

3. How AI helps scientists design the next generation of medicines

Category: Business

Departments: Pharmaceutical Sciences, Computer Science, Biological Sciences, Nursing

Topics: Healthcare AI, AI-assisted Drug Design, Biologic Drug Discovery

Impact Score: 18.0

Rubric Scores

Research Relevance: 2

Educational Value: 3

Innovation / Novelty: 3

Practical Impact: 5

Interdisciplinary Potential: 4

Ethical / Policy Implications: 1

AstraZeneca is leveraging AI-assisted design to accelerate the development of biologic drug candidates, using a build-measure-learn loop to generate and prioritize candidate molecules computationally. The company's approach has led to shorter cycle times, increased productivity, and innovation, enabling the pursuit of disease targets previously considered untreatable. AstraZeneca is also applying AI to discover new classes of medicines, including multi-specific biologics that can target multiple disease pathways simultaneously. The company is building a "lab of the future" facility to integrate AI, robotic automation, and data generation into a continuous, closed-loop discovery system.

<https://www.technologyreview.com/2026/07/23/1140346/how-ai-helps-scientists-design-the-next-generation-of-medicines/>

4. Bristol Myers Squibb Building Life Science Industry's Most Advanced AI Factory on NVIDIA Vera Rubin

Category: Research

Departments: Computer Science, Pharmaceutical Sciences, Biological Sciences, Chemistry & Biochemistry, Nursing

Topics: Healthcare AI, AI Factory Infrastructure, Drug Discovery Acceleration, Large Language Models for Drug Discovery

Impact Score: 15.0

Rubric Scores

Research Relevance: 2

Educational Value: 2

Innovation / Novelty: 3

Practical Impact: 4

Interdisciplinary Potential: 3

Ethical / Policy Implications: 1

Bristol Myers Squibb (BMS) is deploying its second NVIDIA DGX SuperPOD, an AI cluster that will provide access to a unified AI platform for researchers across the company's drug discovery pipeline. The new system, comprising eight DGX Vera Rubin NVL72 systems, will deliver up to 10x the performance per megawatt of the infrastructure it replaces. BMS aims to accelerate drug discovery by enabling researchers to run predictions, train models, and power workflows without limitations, building on the success of its first AI cluster which has already yielded meaningful results, such as AI-enabled target identification and expansion of its library of CELMoD compounds. The company plans to use the new system to translate AI capabilities into measurable impact on drug discovery.

<https://blogs.nvidia.com/blog/bristol-myers-squibb-building-life-science-industrys-most-advanced-ai-factory-on-nvidia-vera-rubin/>