

Thursday, October 1, 2026

Morning Science Briefing • Thu, 01 Oct 2026 16:20:52 GMT • 4:45

Maya: Good morning, and welcome to the Morning Science Briefing for Thursday, October first. I'm Maya.

Devon: And I'm Devon. We've got five big stories today, Maya, from artificial intelligence making biological discoveries to the first direct photo of a baby planet still wrapped in its gas cocoon.

Maya: Plus our space weather segment with a geomagnetic storm watch for tomorrow. Let's start with the story that has scientists buzzing about what AI can do in a lab.

Devon: Anthropic says its Claude AI model has discovered an entirely new enzyme system that looks a lot like CRISPR, the revolutionary gene-editing tool. Roughly nine hundred and fifty Claude agents worked mostly on their own for about twenty-one and a half hours, wrote their own search code, and combed through a massive DNA database hunting for unusual reverse transcriptases.

Maya: They started with around two hundred thousand candidates and narrowed it down to a system that can cut, copy, and paste DNA. Now, big caveat, this is a preprint, not yet peer reviewed, and nobody knows yet what the system actually does or whether it will be useful.

Devon: Right, Stanford's Le Cong summed it up perfectly when he said the experiments are still in the queue while the PR is already live. But even so, this is being cited as a landmark moment for AI driven biological discovery. Announced September twenty-third, covered by Smithsonian Magazine this week.

Maya: Next, a breakthrough in how our cells recycle themselves. Researchers at the Telethon Institute of Genetics and Medicine in Italy have finally identified the molecular machinery that switches on TFEB, a master regulator of the cell's recycling system.

Devon: TFEB controls lysosomes and autophagy, the cell's cleanup crew, and it's been a prized therapeutic target for years, but nobody knew how to switch it on directly. The team, led by Gennaro Napolitano, showed that when lysosomes are stressed, two enzymes called TBK1 and ULK1 modify a protein named FNIP1 through a chain that starts at a proton pump and an adaptor protein, and that sends TFEB into the cell's nucleus to start cleanup.

Maya: They also found a dark side. In follicular lymphoma, mutations in part of that proton pump cause persistent TFEB activation that helps tumor cells survive when nutrients run low.

Devon: The practical payoff is that this opens up new druggable targets upstream of TFEB, with potential for rare genetic diseases, cancer, and disorders where toxic waste builds up in cells. Published in Nature on September thirtieth.

Maya: Now a materials science story with a marine twist. Scientists have engineered bacteria to make high strength silk by borrowing fragments of mussel foot protein.

earlier recombinant silk work, with simple one step purification.

Devon: Stronger than steel by weight, made by bacteria, and inspired by nature. Published in Nature Communications on September twenty-seventh.

Maya: Let's go cosmic. Astronomers have confirmed the first microblaze in the Milky Way, an object whose existence was predicted for about thirty years but was hidden by interstellar dust.

Devon: The system, called I R A S eighteen two nine three minus zero n, is located about twelve thousand light years away. It's a black hole roughly ten times the size of the sun, orbiting a hot massive star every eleven point three eight days. The jets travel at about seventy-five percent of the speed of light, with one jet aimed directly at Earth.

Maya: The other jet slammed into a molecular hydrogen cloud a hundred light years away, creating a hotspot where particles accelerate to peta electron volt energies, making it a hundred times more powerful than the Large Hadron Collider. That makes it a new source of the galaxy's most energetic cosmic rays.

Devon: The international team from A S T R O N, J I V E, the University of Exeter, and led from the University of Ja n in Spain clinched it with multi waveband radio imaging. Published in Astronomy and Astrophysics, announced September twenty-seventh.

Maya: And the most photogenic story of the week: the first direct image of a protoplanet still forming inside its swirling gas cocoon.

Devon: Using ALMA's sixty-six radio dishes, an international team led by David Benisty of the Max Planck Institute for Astronomy captured WISPIT two b, a planet five times the mass of Jupiter, sitting fifty-seven astronomical units from its star, four hundred and thirty light years away, wrapped in swirling gas that shows blue and red shifts of material being pulled in.

Maya: The same image caught its companion, WISPIT two c, which carved a gap in the disk while the smaller planet carved a narrower gap. These dynamic structures have been simulated on computers before, never actually seen.

Devon: A landmark for accretion theory. Published in the Astrophysical Journal Letters on September thirtieth.

Maya: Now our space weather segment. The sun is almost eerily quiet today with no significant flares in the past twenty-four hours, just two decaying sunspots and no Earth directed coronal mass ejections in the imagery.

Devon: Earth's magnetic field is calm too, with the Kp index down at zero. It's the calm before the storm, because NOAA's Space Weather Prediction Center has issued one minor geomagnetic storm watch in effect for tomorrow, Friday October first.

Maya: A coronal mass ejection launched September twenty-eighth is expected to be a glancing blow arriving around midday Friday. If the storm materializes, it could cause aurora are forecast for the morning hours, and aurora could be visible across parts of the United States, northern New England, the Upper Midwest, the northern part of the Pacific Northwest, low on the northern horizon.

and we'll see you tomorrow morning.
Maya: Have a great Thursday.