

News in brief



SENSOR SEEKS OUT PSYCHEDELIC DRUGS WITHOUT THE TRIP

Scientists in search of psychedelic drug treatments have developed a way to determine whether a molecule is likely to cause hallucinations, without testing it on people or animals. Using their approach, the researchers identified a psychedelic-like molecule that had no hallucinogenic properties but showed antidepressant activity in mice (C. Dong *et al.* *Cell* <https://doi.org/gjtmmt>; 2021).

Growing evidence suggests that psychedelic compounds might be able to treat illnesses such as post-traumatic stress disorder, but it's unclear whether there is a way to harness their therapeutic properties without the trippy side effects.

It is almost impossible to predict whether a potential drug will cause hallucinations before it is tested. To address this, a team led by neuroscientists David Olson and Lin Tian at the University of California, Davis, designed a fluorescent biosensor based on the structure of a brain receptor for the neurotransmitter serotonin (crystals pictured), which is targeted by psychedelics. When compounds bind to the sensor, it changes shape, which affects the intensity of light emitted. This can be used to predict the effect the compound would have on a real serotonin receptor, making it “a radar for hallucinogenic potential”, Tian says.

ONE DOSE OF COVID VACCINE NEARLY HALVES TRANSMISSION RISK

A single dose of the COVID-19 vaccine made by either Pfizer or AstraZeneca cuts a person's risk of transmitting SARS-CoV-2 to their closest contacts by as much as half, according to an analysis of more than 365,000 households in the United Kingdom.

Although the vaccines have been shown to reduce COVID-19 symptoms and serious illness, their ability to prevent coronavirus transmission has been unclear. Kevin Dunbar, Gavin Dabrera and their colleagues at Public Health England in London looked for cases in which someone became infected with SARS-CoV-2 after receiving a dose of either vaccine (R. J. Harris *et al.* Preprint at Knowledge Hub <https://go.nature.com/3e3iuli>; 2021). They then assessed how often those individuals transmitted the virus to household contacts.

The team found that people who had been vaccinated for at least 21 days could still test positive for the virus. But viral transmission from these individuals to others in their households was 40–50% lower than transmission in households in which the first person to test positive had not been vaccinated. Results for the two vaccines were similar.

Who got the first billion COVID vaccinations?

The world has reached the milestone of administering one billion doses of COVID-19 vaccines, just four months after the World Health Organization (WHO) approved the first vaccine for emergency use, and roll-outs began in countries such as the United States and the United Kingdom. The speed at which they have been administered is remarkable, but unequal distribution of the vaccinations highlights global disparities, say researchers (see ‘Divided by doses’).

“It is an unprecedented scientific achievement. Nobody could have imagined that, within 16 months of the identification of a new virus, we would have vaccinated one billion people worldwide,” says Soumya Swaminathan, the WHO's chief scientist, based in Geneva, Switzerland.

As of 27 April, 1.06 billion doses had been given to 570 million people, which means that about 7.3% of the world's population of 7.79 billion have received at least one dose. But scientists say that more than 75% of the world's population will need to be vaccinated to bring the pandemic under control.

DIVIDED BY DOSES

More than three-quarters of all doses of COVID-19 vaccines given so far have been administered in just ten nations. People in more than 170 other nations and territories have had to share the remainder.

Total vaccine doses administered as of 25 April **1.03 billion**

