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# Scientists find that Ayahuasca, a hallucinogen from the Amazon, stimulates the birth of new brain cells.

The ***Beckley/Sant Pau Research Programme,*** in collaboration with the Spanish National Research Council in Madrid, releases remarkable findings from their latest study investigating the potential of ayahuasca to promote neurogenesis: the development of new brain cells. The investigators believe that these findings will open up a new avenue of research that may help develop drugs to treat diseases like Alzheimer's and Parkinson's which are unfortunately highly prevalent in modern societies.

Preliminary data was presented by lead investigator, Dr Jordi Riba, at the Interdisciplinary Conference on Psychedelic Research in Amsterdam this weekend**. Results showed that two compounds - harmine and tetrahydro harmine - commonly found in the Amazonian hallucinogenic tea ayahuasca, potently stimulated the transformation of stem cells into new neurons.**

For many years it was thought that the brain doesn't make neurons during adulthood. In the 1990s, research changed this dogma showing that new neurons are generated throughout adult life in two regions of the human brain: the area around the ventricles and in the hippocampus.

The hippocampus plays a key role in memory. Its function declines with age and in neurological disorders. Under normal conditions, the rate of birth of new neurons is very low, and it cannot keep up with the rate of neural death that occurs in diseases such as Alzheimer's.

The study was conducted at Sant Pau Hospital Barcelona in collaboration with the Beckley Foundation and researchers at the Spanish National Research Council in Madrid: Jose Morales-García, María Isabel Rodriguez-Franco, Ana Pérez-Castillo and Mario de la Fuente Revenga. In this study neural stem cells were isolated from the hippocampus of adult mice. The stem cells were grown in the lab and substances that are present in ayahuasca were added to the cultures and compared with saline (placebo control). Results were impressive, with ayahuasca

substances stimulating the transformation of stem cells into new neurons (see images).

Dr. Riba has been studying ayahuasca for twenty years. Ayahuasca is a potent hallucinogenic brew used by shamans in the Amazon for centuries for medical and spiritual purposes. Obtained from a mixture of jungle plants, its popularity around the world has hugely increased in recent years, as an aid to spiritual exploration, psychotherapy and healing.

Amanda Feilding says, "The images from the Beckley/Sant Pau collaboration showing the birth of new neurons are very interesting and suggest that ayahuasca could lead to a new approach in the treatment of neurodegenerative conditions such as Alzheimer's and Parkinson's, among others."

NOTES FOR THE EDITOR

The **Beckley Foundation** is a UK-based think-tank and research centre that, since its establishment in 1998 by its Executive Director Amanda Feilding, has been at the forefront of scientific research into the mechanisms of action and potential medical benefits of psychoactive substances, and of global drug policy reform. Its Scientific Programme uses the latest developments in neuroscience and neuroimaging technology in order to explore how psychoactive substances act upon the human brain, both to increase our scientific understanding of the mysteries underlying consciousness, and to open up new avenues of treatment for mankind's many illnesses.

**Interviews:** Amanda Feilding, Director of the Beckley Foundation, will be available to be interviewed. Please contact the Beckley Foundation, details below.

**For Further Information:**
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**Neurogenesis images from Dr Jordi Riba overleaf**

Neurogenesis Images from Dr Jordi Riba– (High resolution available on request)

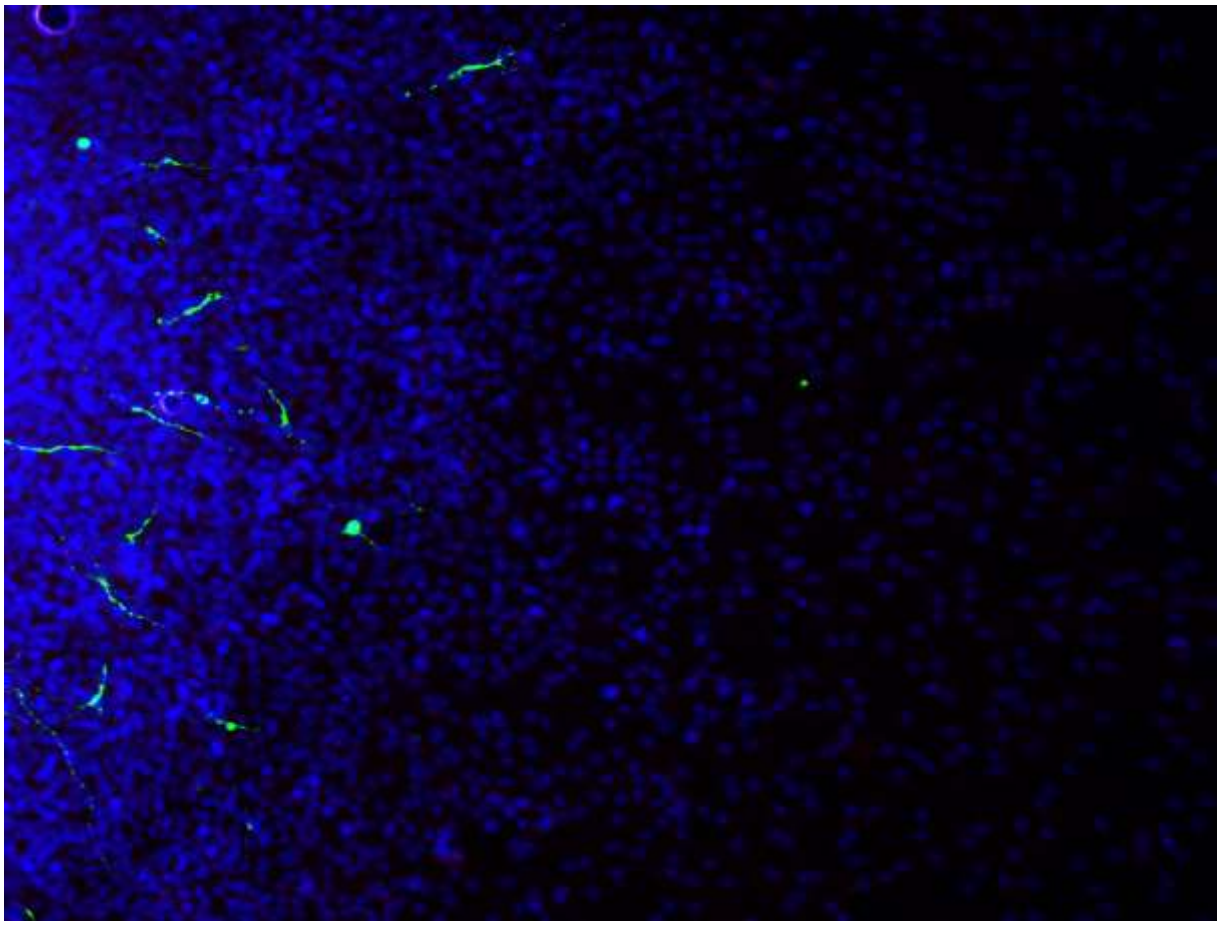

Figure 1. This is the control slide, where stem cells have been treated with saline (salty water) for a few days. Very few of these cells (their nuclei stained in blue) have developed into young neurons (stained geen).

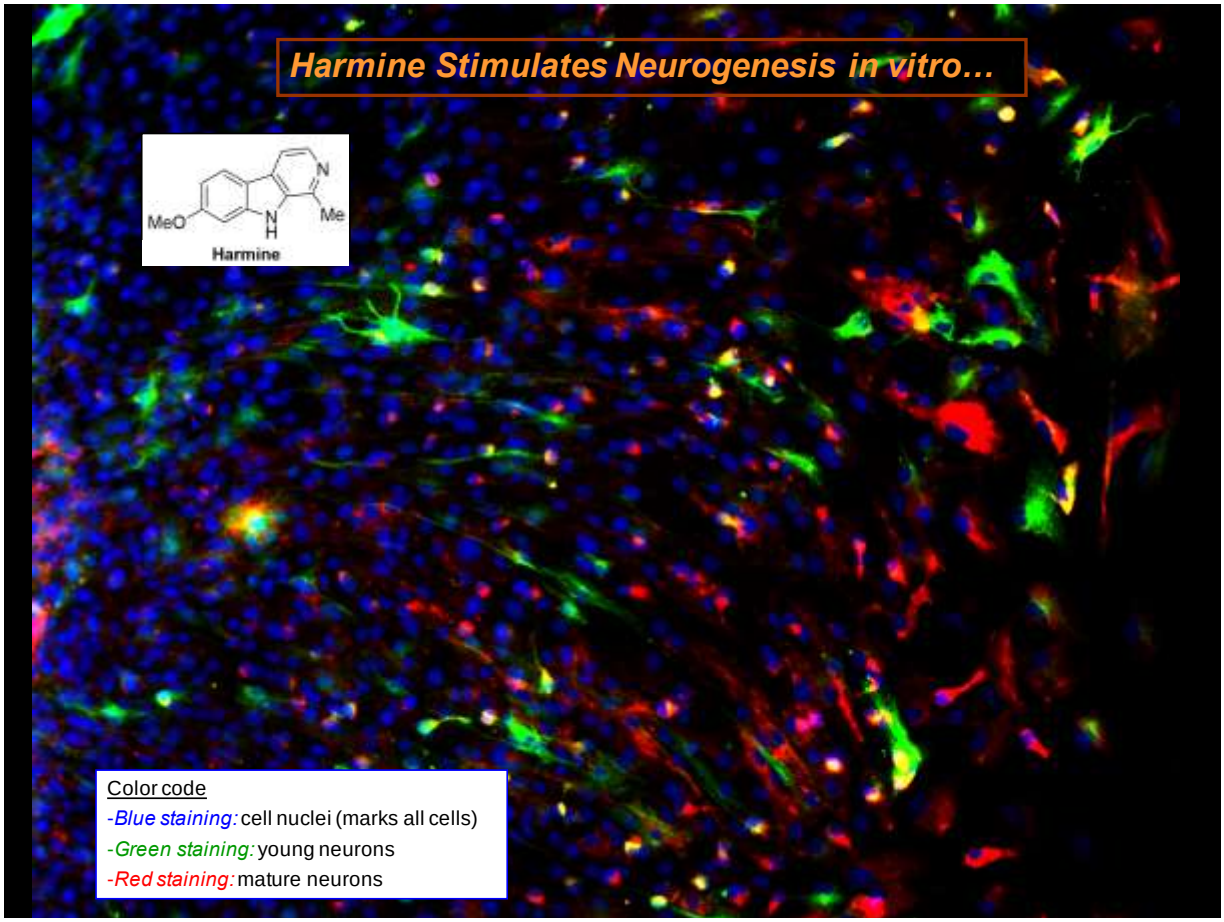


Figure 2. This shows the results after several days of treatment with harmine - blue is still present because it's a marker of cell nuclei, and all cells have nuclei (stem cells and neurons). The green spots are the young neurons. The red spots show more mature neurons.

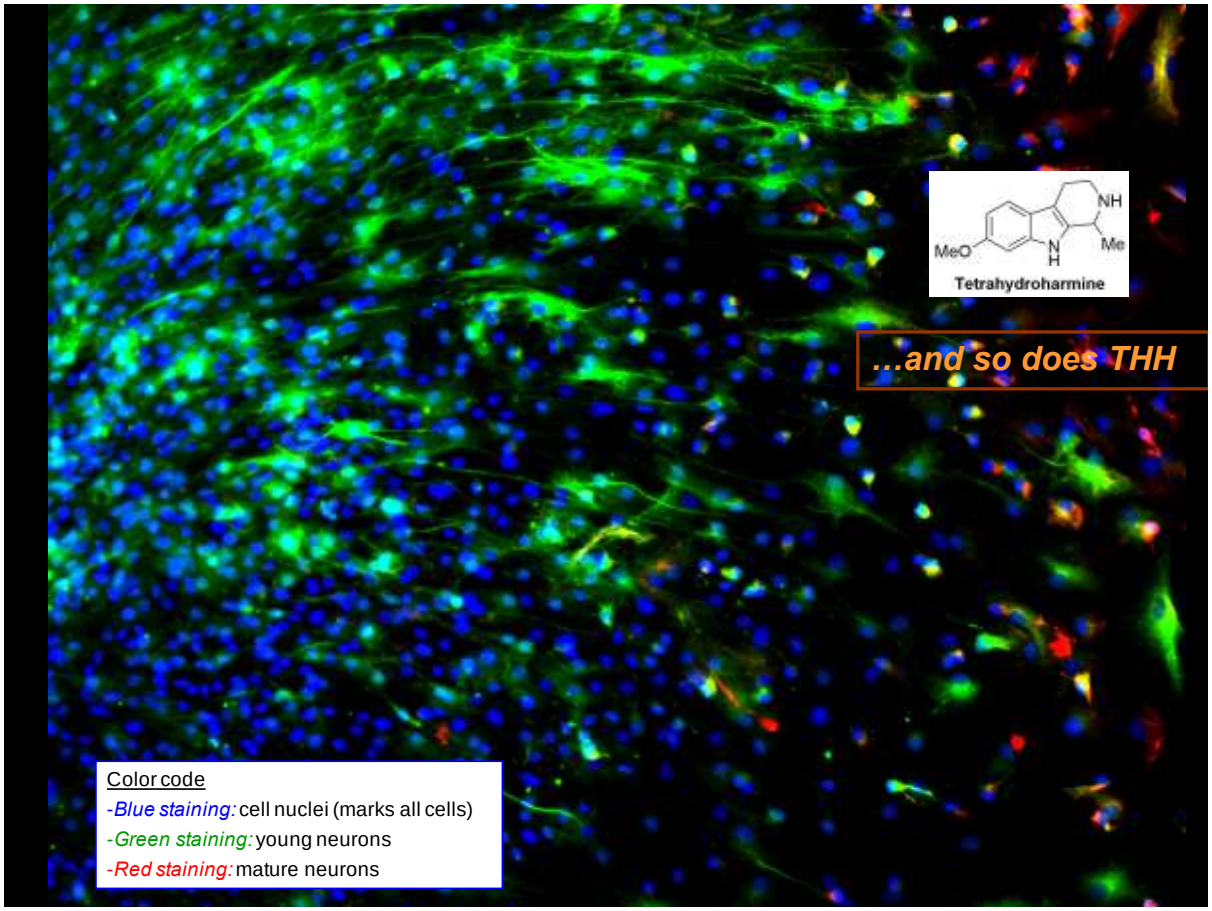


Figure 3. This shows the results obtained after several days of treatment with tetrahydro -harmine: blue is the marker of the cell nuclei (both neurons and stem cells), the green spots are the young neurons and the red spots show more mature neurons.