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IDEAS TO LIFE RANGAHAUA KIA WHAI HUA

Selective Antagonist of 5-HT2A receptor

Novel compound exhibiting selective antagonism of the 5-HT2A receptor to treat psychiatric disorders and eliminate off-target activity.

Issues with current 5-HT2A antagonism

Antagonism of the serotonin 5-HT2A receptor displays ameliorative effect in a number of psychiatric disorders, due to its heavy linkage with learning, mood, memory, imagination, sexual behaviour, perception, sleep and addictive behaviours. In the clinical setting, 5-HT2A antagonism is elicited using drugs with a diverse pharmacological profile and the broad pharmacology displayed by these drugs is associated with significant side-effect profiles, and the reported efficacy is not particularly high.

Currently, 5-HT2A antagonism is achieved by poorly selective antipsychotics (olanzapine, quetiapine, risperidone) or antidepressants (non-SSRI's; mirtazapine, trazodone). This leads to various undesirable side effects with negative effects on the patient's compliance, such as:

- Weight gain
- Sedation
- Dizziness
- Cardiovascular disease
- QT prolongation
- Sexual dysfunction

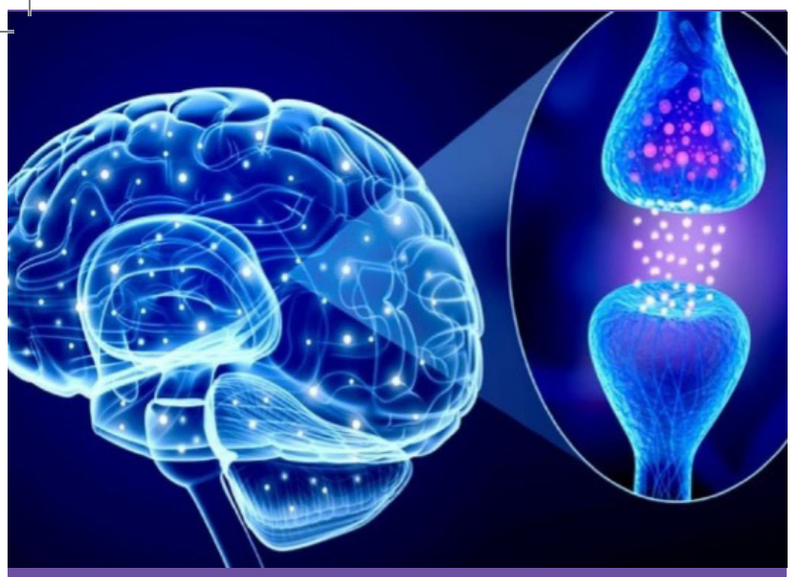
Technology

A clinically beneficial antagonist with a highly selective ability to inhibit the serotonin 5-HT2A receptor has been discovered to act as a 'clean' drug. The compound has shown great potency in its antagonistic mechanism and the selective binding will also be complemented with its ability to reduce the prevalence and severity of side effects. Combined with its enhanced efficacy, this compound has the potential to provide a new direction for the treatment for psychiatric disorders and beyond.

Applications

The compound will not only be able to treat psychotic disorders, but also pave the way as a new mode of action for other mental disorders. Some of the potential areas of treatment are:

- Depression
- Psychotic disorders
- Anxiety disorders
- Migraines
- Sleep disorders
- Drug addiction
- Symptoms of autism



Major advantages:

- Treats psychiatric disorders whilst mitigating the level of detrimental off-target side effects.
- Potentially could replace the administration of 'dirty' and poorly efficacious drugs to inhibit the 5-HT2A receptor, which often exhibit varying side effects.
- Possesses applicability beyond psychiatric disorders into other mental conditions.

UniServices by the numbers

Total external research funding:
$261.3M
(35% increase over 2020)

45
companies started in the past five years

$1.25BN
Total market capitalisation of companies formed

$73.5M
Net asset value of the University of Auckland Inventors' Fund

17,335 Covid-19 vaccinators trained by the Immunisation Advisory Centre in 2021

1,700
New Zealand teachers reskilled and upskilled through Tui Tuia | Learning Circle professional learning and development in 2021

3,000
clinical staff at 22 DHBs trained through teamwork-based acute care simulations designed by NetworkZ in the past five years

14,391 times that child and youth mental health workers attended Whāraurau e-modules, trainings and workshops in 2021

UniServices

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