Small-molecule, non-dopaminergic protein inhibitors for the treatment of schizophrenia

Technology #cu13059

Schizophrenia is a debilitating and poorly understood psychiatric disease for which there are limited treatment options. All current therapies target the dopamine system in the brain, and they have low success rates and many side effects. Therefore, there is a pressing need to develop new treatments with alternative protein targets. This technology is the design, synthesis, and pharmaceutical formulation of small molecule inhibitors of the vasoactive intestinal peptide receptor 2 (VPAC2) protein in the central nervous system (CNS), as well as the use of these inhibitors as a treatment for schizophrenia and related CNS disorders.

Copy number variations of the gene VIPR2 are observed in a subset of schizophrenia patients

VPAC2 is encoded by the vasoactive intestinal peptide receptor gene VIPR2. Some schizophrenia patients have more copies of VIPR2 relative to the general population implicating the gene and its protein product in the pathogenesis of the disease. This technology identifies several VPAC2 inhibitors through cellular assays, and provides information on inhibitor structure-activity relationships. These inhibitors can be further tested in a murine model for the disease, and may potentially be developed into a treatment for schizophrenia and other CNS disorders.

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Applications:

- Treatment for schizophrenia
- Treatment for behavioral disorders
- Treatment for CNS disorders
Advantages:

- Acts on a unique protein target implicated in schizophrenia pathogenesis
- Alternative to current therapies that use dopamine agonists and antagonists

Patent Information:

Patent Pending (WO/2014/075096)

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Related Publications:


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