Use of kynurenic acid analogues for the treatment of Huntington's disease

**Keywords:** Kynurenic acid analogue, Huntington's disease, NMDA receptor, excitotoxicity

**Summary**

Our partner, University of Szeged has discovered a kynurenic acid analogue for the treatment of Huntington's disease. The development of the candidate moves from discovery to preclinical phase. Our client is looking for partners to complete the preclinical trial and to further develop the technology.

**Challenge to be addressed**

Huntington's disease (HD) has an orphan indication with high medical need. Huntington's disease is a rare neurodegenerative disorder that progressively destroys mental capacity and motor control in patients. Given that no disease-modifying therapy for HD exists and that available symptomatic treatments are not highly efficacious, the medical need for this 'orphan' disease remains strong.

**Innovation and main advantages of the technology**

Huntington's disease (HD) is a progressive neurodegenerative disorder, the pathomechanism of which is not yet fully understood. Excitotoxicity is known to be involved in the development of HD, and antiglutamatergic agents may, therefore, have beneficial neuroprotective effects. One of these agents is the tryptophan metabolite kynurenic acid (KYNA), which is an endogenous NMDA receptor antagonist. However, its pharmacological properties rule out systemic administration in CNS disorders. We have tested a novel KYNA analogue in the N171-82Q transgenic mouse model for HD. The analogue exhibited several significant effects: it prolonged the survival of the transgenic mice, ameliorated their hypolocomotion, prevented the loss of weight and completely prevented the atrophy of the striatal neurons. As it induced no appreciable side-effect in this mouse model at the protective dose applied in a chronic dosing regimen, it would appear to call for further thorough investigations with a view to eventual clinical trials.

**Potential areas of use**

Pharmaceutical application: cure for Huntington's disease

**Benefits**

- Exhibits anti-excitotoxic activity
- Prolongs survival of transgenic mice
- Ameliorates hypolocomotion
- Prevents loss of weight
Prevents atrophy of striatal neurons
Possesses significantly improved side-effect profile compared to available drugs

Stage of development

On the basis of the promising preliminary results, the goal is to develop the preclinical dossier, complete investigations and launch phase 1 clinical trials. The exact mechanism of action is currently being investigated. Plans include further investigations of the compound in all the other models of neurodegenerative diseases.

Intellectual property status

The Hungarian patent application (P1000343) is in progress. PCT patent application has been extended to Europe (EP2588109) and to the US (US13/806,699).

Type of collaboration

- Investment
- Joint R+D

Our client is looking for partners to complete the preclinical trial and to further develop the technology.

For further information please contact

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