

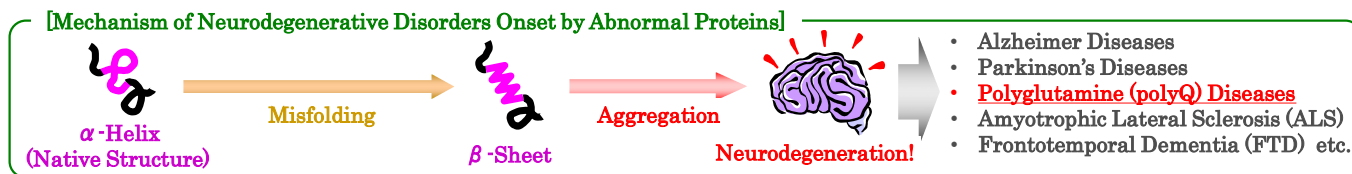
# L-Arginine

## ~ A Therapeutic Agent for PolyQ Diseases ~

### KEY INVENTION

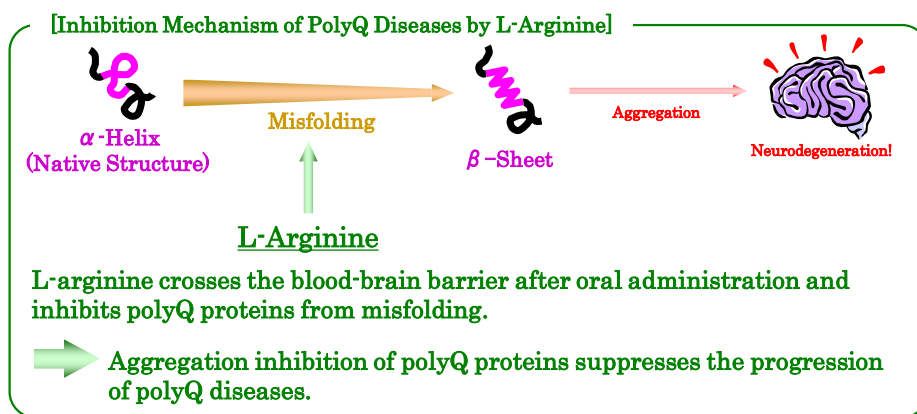
L-arginine inhibits the aggregation of the polyglutamine (polyQ) proteins which are responsible for polyQ diseases.

Medical Doctor-led Clinical Trials of L-arginine are ongoing as a feasibility study for polyQ diseases.

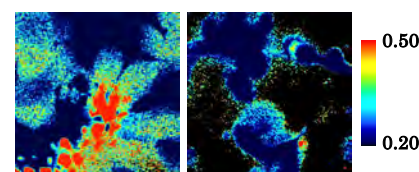


### SUMMARY of INVENTION

L-arginine inhibits the polyQ proteins from misfolding and aggregation.



#### Inhibitory Effect of PolyQ Protein Aggregation by L-Arginine



Addition of L-arginine decreased protein aggregation.

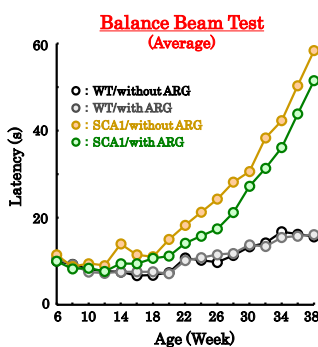
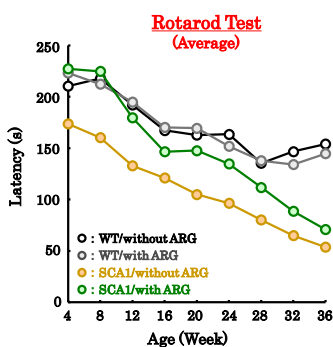
Brain 2020, 143, 1811-1825

### EFFECT of INVENTION

#### Effects on PolyQ Disease Mouse Models

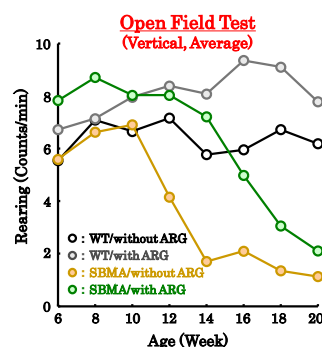
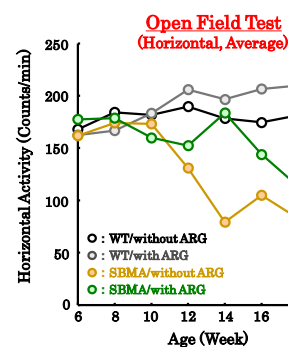
- Spinocerebellar Ataxia Type 1 (SCA1) : A slowly progressive cerebellar ataxia [Symptoms] Gait disturbance, Dysarthria, etc.
- Spinal & Bulbar Muscular Atrophy (SBMA) : A neurological disorder in which motor neurons gradually decrease [Symptoms] Muscle Weakness and Atrophy, etc.

#### [Effects on SCA1 Mice]



Brain 2020, 143, 1811-1825

#### [Effects on SBMA Mice]



Brain 2020, 143, 1811-1825

Motor dysfunction of SCA1/SBMA mice was suppressed by L-arginine administration.

### APPLICATION expected

- Application as a novel therapeutic agent (progression inhibitor) for polyQ diseases
- Application as a therapeutic agent (progression inhibitor) for other neurodegeneration disorders

Representative Inventor :  
Yoshitaka Nagai  
(Professor, Kinki University)

Co-Inventor :  
Eiko N. Minakawa  
(Assistant Professor, Kyoto University), et al.

Licensable Patent  
Title of Invention:  
International Publication No.:  
Contact:

Pharmaceutical Composition  
WO2017222040  
IP Management & Licensing Group,  
Department of Intellectual Property  
Management, JST  
TEL) +81-3-5214-8486  
email) [license@jst.go.jp](mailto:license@jst.go.jp)  
URL) [www.jst.go.jp/chizai/](http://www.jst.go.jp/chizai/)

