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## JBPOS0101: A new generation mGluR and BBB targeted broad spectrum antiepileptic drug for the treatment of super-refractory status epilepticus

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JBPOS0101 is an antiepileptic drug candidate which possesses highly potent and broad spectrum antiepileptic activity as demonstrated in testing done by Bio-Pharm Solutions and NIH NINDS Anticonvulsant Screening Program. NINDS has provided a Red Book for JBPOS0101 due to its promising anticonvulsant profile. JBPOS0101 shows efficacy in a broad range of animal models including electrically and chemically induced seizures. JBPOS0101 shows efficacy in pharmaco-resistant epilepsy models and also in the 6 Hz psychomotor seizure test with similar ED50 values at both 32 mA and 44 mA stimulation. In particular, JBPOS0101 shows strong efficacy in several benzodiazepine-resistant status epilepticus models in which lithium-pilocarpine is administered 30 minutes after the first observed seizure: Behavioral seizures with 90 minute observation, electrographic seizures, in terms of gamma wave power (20-70 Hz) on EEG with 10 hour observation, protection against hippocampal cell loss after 14 days of observation and spontaneous recurrent seizures with 14 day observation. JBPOS0101 is an antagonist of metabotropic glutamate receptors 1 and 7. Additionally, JBPOS0101 may have a strong functional role in blood brain barrier related neuroprotection against lithium-pilocarpine induced status epilepticus, collagenase induced hemorrhage and tPA induced cell death. JBPOS0101 has completed phase-1 clinical trials in Toronto, Canada. No serious or severe treatment emergent adverse events occurred. All adverse events were characterized as mild. No subject in any treatment group experienced a treatment emergent adverse event related to vital sign measurements. Regarding the pharmacokinetic profile observed in phase-1, plasma concentrations of JBPOS0101 were observed to increase proportionally with increasing dose levels of JBPOS0101. We are currently planning a phase 1/2 trial for the treatment of patients with super-refractory status epilepticus. The preclinical data, especially the refractory status epilepticus models and phase-1 results suggest that JBPOS0101 is a promising drug candidate for the treatment super-refractory status epilepticus with anti-epileptogenic and neuroprotective properties.

### Biography

Yong Moon Choi has completed his PhD from the State University of New York and Postdoctoral studies from Purdue University under 1979 Nobel Laureate Herbert C. Brown. He is currently the President and CEO of Bio-Pharm Solutions based in South Korea. He has founded SK Biopharmaceuticals (New Jersey, Seoul/DIT, Shanghai) in 1993. While at SK Biopharmaceuticals, he has established a global R&D network with NIH National Institute of Neurological Disorders and Stroke, university institutes and Johnson & Johnson. He has filed 104 patents and published 29 papers in renowned journals.

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