RS-2024-00332473

Clinical development and global collaboration of NS101: A novel monoclonal antibody therapeutic for sensorineural hearing loss through synaptic restoration

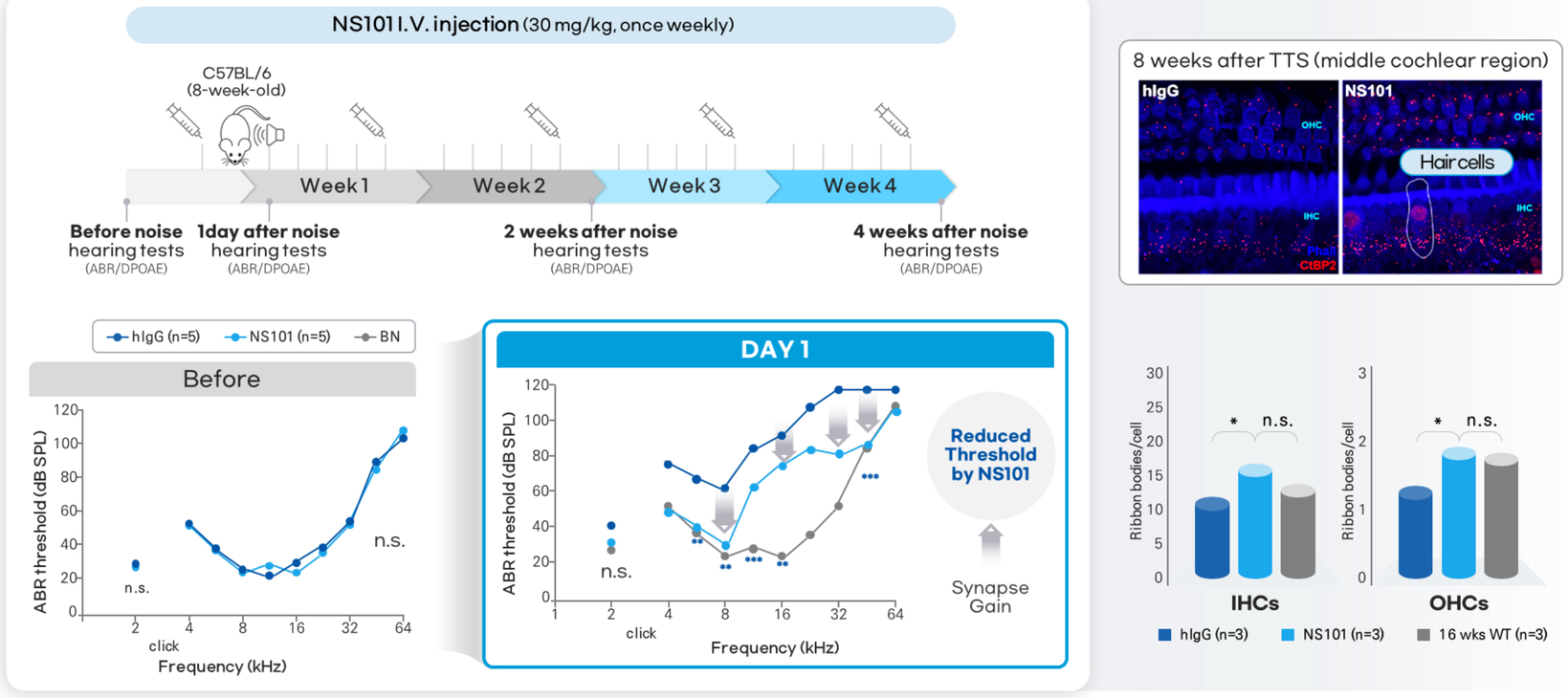
NEURACLE SCIENCE

Neuracle Science. Co., Ltd.

Disease Area	***Neurological disease (Neuro-otology)***
Product Type	Monoclonal Antibody (anti-FAM19A5 antibody, functioning synapse restoration)
Indication	Sudden Sensorineural Hearing Loss (SSNHL)
Target	FAM19A5 (functioning synapse elimination)
Mechanism of Action	Functional recovery by synapse restoration via anti-FAM19A5 antibody
Competitiveness	✓ **First-in-class MOA with extensibility potential**: versatile diseases (i.e. sensorineural diseases, neurodegenerative diseases, neurological diseases & neuronal disabilities) can be treated if related with accumulated synaptopathy ✓ **Therapeutic potential**: The amino acid sequence of FAM19A5 is 100% identical across vertebrates, including humans ➔ well conserved, very important protein thru evolution ✓ **Safety potential by disinhibiting MOA**: not more than normal
Development Stage	***Clinical Trial Phase 1b/2a***
Route of Administration	Intravenous

Key Data

NS101 prevents post-noise decreases in cochlear ribbon synapses and increases in ABR thresholds



Ph1a PK: IV injected NS101 remains up to 1-2 months in blood
PD: NS101 withdraws FAM19A5 from brain to bloodstream