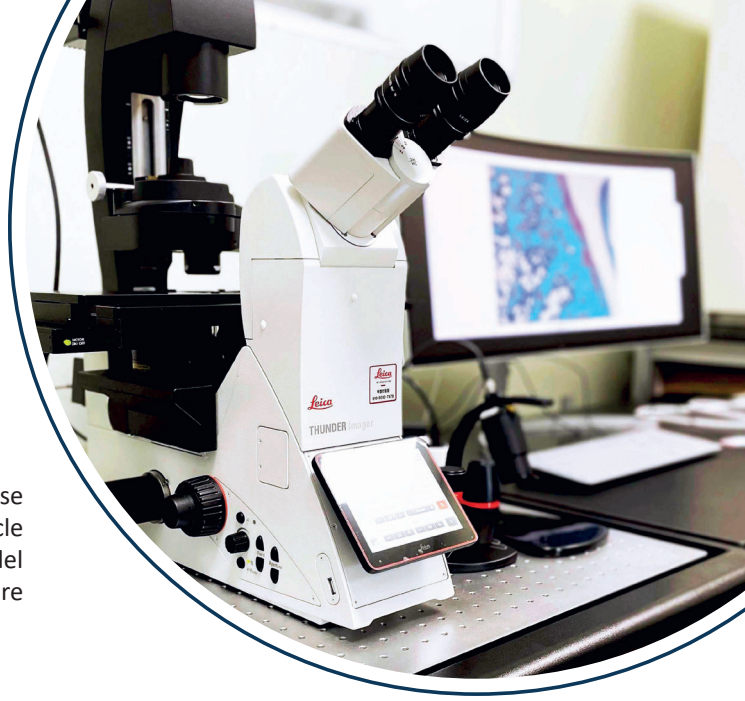
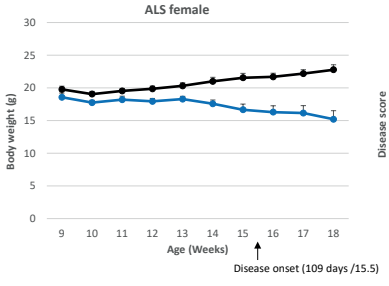
Naason Preclinical Research Model

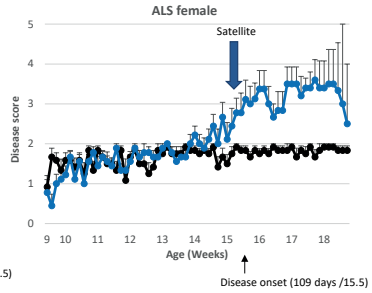
SOD1-G93A TG for ALS

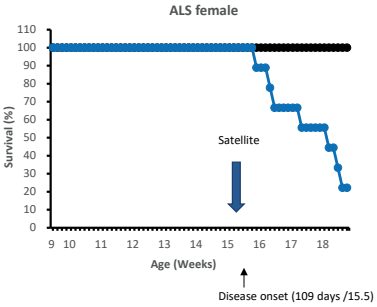
Species: Mouse
Genes: SOD1
Disease Relevance: Amyotrophic lateral sclerosis (ALS)
Strain Name: SOD1-G93A

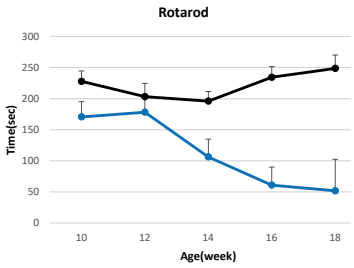
Amyotrophic lateral sclerosis (ALS) is a progressive nervous system disease that affects nerve cells in the brain and spinal cord, causing loss of muscle control. Naason Science has validated the transgenic SOD1-G93A Model of ALS. SOD1 mice exhibit a phenotype similar to ALS in humans and are the most widely used animal model in ALS Drug Discovery Studies.



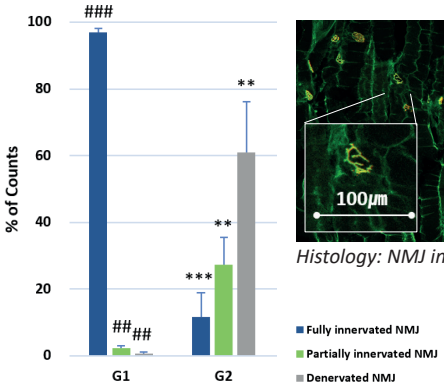


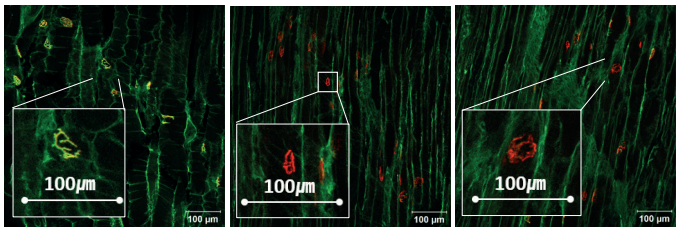






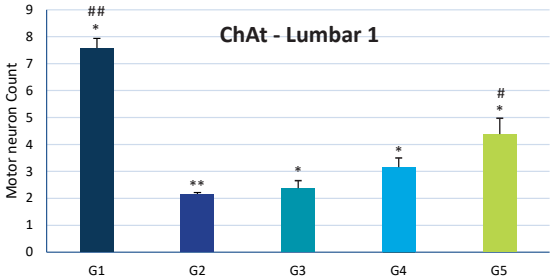
NMJ Count





Histology: NMJ innervation

ChAt (Choline Acetyltransferase) – Motor neuron count, Lumbar (L1)



- G1 : WT + Vehicle
- G2 : Tg + Vehicle
- G3 : Tg + Compound A
- G4 : Tg + Compound B
- G5 : Tg + Compound C

Statistical analysis
All values were presented as mean ± standard error (SEM)
All values were statistically analyzed by one-way ANOVA with LSD post-hoc analysis
- * : 0.05>p, ** : 0.01>p, *** : 0.001>p ; G1 vs All group
- # : 0.05>p, ## : 0.01>p, ###: 0.001>p ; G2 vs All group

Immunofluorescence

Neuromuscular junction
- Sample: Gastrocnemius muscle
- Staining
  - pre-synaptic: synaptotagmin 2
  - Post-synaptic: α-bungarotoxin
- Imaging: confocal
- Analysis: level of innervation in each minimum 50 NMJ
  - Fully innervated NMJ
  - Partially innervated NMJ
  - Denervated NMJ

Motor neuron count
- Sample: Spinal cord – Lumbar (L1)
- Staining: Neurotrace Fluorescent Nissl
- Imaging: Fluorescence microscope
- Analysis: Ventral horn
  - Nissl: Motor neuron count
  - ChAt: Motor neuron count

GFAP, Iba1
- Sample: Spinal cord – Lumbar (L1)
- Staining: GFAP
- Imaging: Fluorescence microscope
- Analysis: Ventral horn
  - GFAP: Alexa fluor 488 intensity
  - Iba1: Alexa fluor 594 intensity

NAASON SCIENCE

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150+ Years of Cumulative CRO and Preclinical Drug Development Experience located in two world class cutting-edge centers of Osong Bio-medical Science Complex in Osong and DGMIF in Daegu, South Korea.