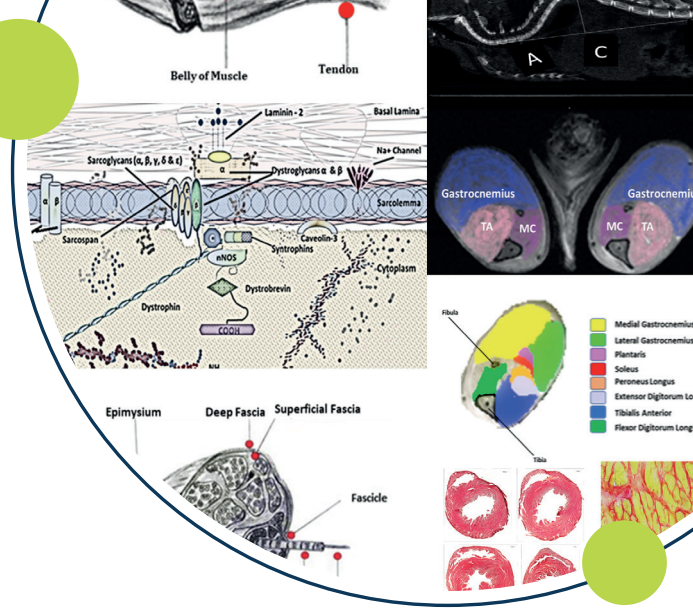
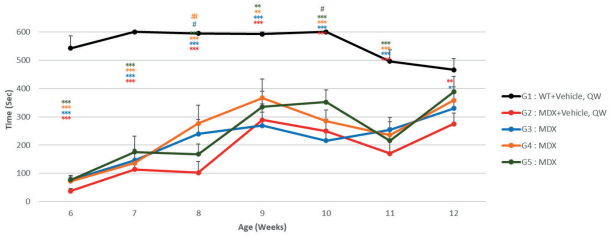
Naason Preclinical Research Model

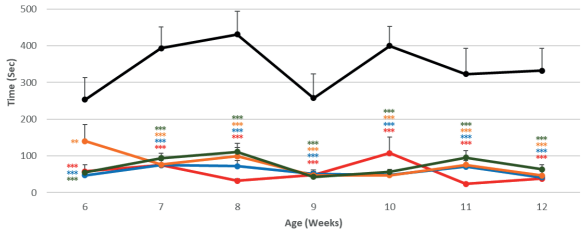
The *mdx* mouse for the study of Duchenne Muscular Dystrophy and associated dystrophinopathies



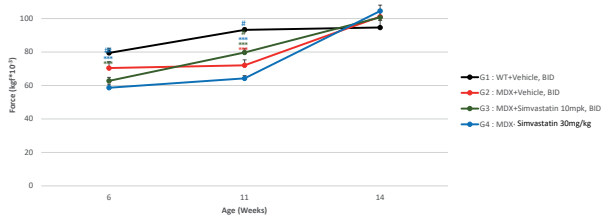
Species: Mouse
Genes: Spontaneous mutant
Modification: Exercise (if required to exacerbate the phenotype)
Disease Relevance: Muscle degeneration/regeneration, inflammation, necrosis, muscle hypertrophy
Strain Names: C57BL/10ScSn-Dmdmdx/J



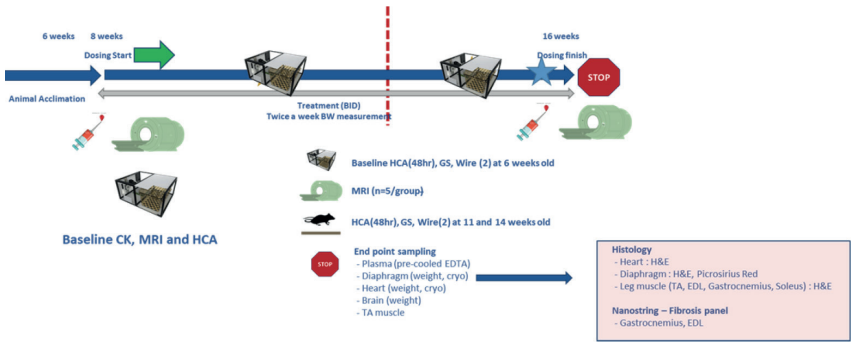
4 Limb Hanging is a good assay to run in order to assess muscle fitness in the mdx mouse during drug treatment



2 Limb Hanging is an assay that is run periodically in order to assess muscle strength



Grip strength in the mdx does not change in the period leading up to the 12 week timepoint. Thereafter it can be used as to measure changes in muscle strength

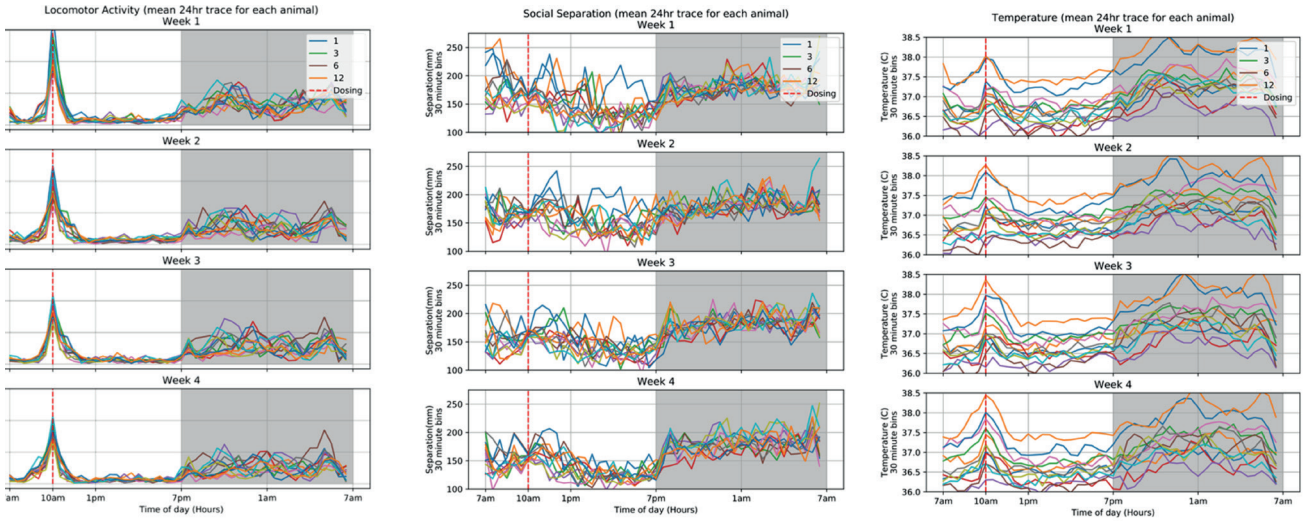


Paradigm schematic of typical mdx protocol (N=10/group) with low/no mortality until around 18 months. The "critical period" ends at approximately12 weeks of age and muscle damage is apparent from birth.

The mdx mouse model for the study of DMD is a particularly good tool to study the effects of dystrophin deficiency. The model provides an insight into the degeneration and regeneration present in the mouse muscle in the ”critical period” leading up to 12 weeks.

Studies can be augmented with dedicated high-field MRI and group-housed, home cage monitoring. Naason provides extensive histopathology services along with the ability to apply advanced molecular techniques like Nfl and muscle fiber typing.

Animals are generally monitored in the homecage for social interactions and signs of anxiety and depression. This technology alows allows Naason to automatically track and calculate the locomotor activity for each individual animal 24/7.



Home cage monitoring of each individual in the home cage. The circadian rythim can be clearly seen as well as locomotor activity, social seperartion and core body temperature over a 24 hour period.

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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.