Mouse Model for Duchenne's Muscular Dystrophy

Duchenne's muscular dystrophy (DMD) is one of the most common lethal genetic diseases of childhood. DMD is an inherited X-linked disease that results in the loss of dystrophin, a protein involved in maintaining the integrity of muscle. C57BL/10ScSn-*Dmd*^{mdx}/J mice (common name *mdx*) have a loss-of-function mutation in the dystrophin gene that underlies progressive muscle degeneration starting about three weeks of age. The *mdx* mouse is the most published model of DMD (Grounds *et al.*, 2008). The objective of the study is to characterize muscle defects and histopathology in the *mdx* mice.

Study Design

- Male C57BL/10ScSn-*Dmd*^{mdx}/J ("*mdx*"; Stock Number 001801) and C57BL/10ScSnJ ("control"; Stock Number 000476) mice (N=6 for both)
- Mice subjected to grip strength testing at four and eight weeks of age
- Histopathology on muscle tissue (extensor digitorum longus, tibialis anterior, diaphragm, soleus) for signs of dystrophy at eight weeks of age

Experimental Timeline

			Grip strength		**Grip strength**	**Study Termination**
Age (d)	21-24	25 - 27	28	29-55	56	
	Acclimation	Phenotyping				Necropsy