

NeuroMuscleDB: a Database of Genes Associated with Muscle Development, Neuromuscular Diseases, Ageing, and Neurodegeneration

Baig M.H.

Rashid I.

Srivastava P.

Ahmad K.

Jan A.T.

Rabbani G.

Choi D.

Barreto G.E.

Ashraf G.M.

Lee E.J.

Choi I.

Skeletal muscle is a highly complex, heterogeneous tissue that serves a multitude of biological functions in living organisms. With the advent of methods, such as microarrays, transcriptome analysis, and proteomics, studies have been performed at the genome level to gain insight of changes in the expression profiles of genes during different stages of muscle development and of associated diseases. In the present study, a database was conceived for the straightforward retrieval of information on genes involved in skeletal muscle formation, neuromuscular diseases (NMDs), ageing, and neurodegenerative disorders (NDs). The resulting database named NeuroMuscleDB (<http://yu-mbl-muscledb.com/NeuroMuscleDB>) is the result of a wide literature survey, database searches, and data curation. NeuroMuscleDB contains information of genes in *Homo sapiens*, *Mus musculus*, and *Bos Taurus*, and their promoter sequences and specified roles at different stages of muscle development and in associated myopathies. The database contains information on ~ 1102 genes, 6030 mRNAs, and 5687 proteins, and embedded analytical tools that can be used to perform tasks related to gene sequence usage. The authors believe NeuroMuscleDB

provides a platform for obtaining desired information on genes related to myogenesis and their associations with various diseases (NMDs, ageing, and NDs). NeuroMuscleDB is freely available on the web at <http://yu-mbl-muscledb.com/NeuroMuscleDB> and supports all major browsers. © 2019, Springer Science+Business Media, LLC, part of Springer Nature.

Ageing

Database

Genes

Myogenesis

Neurodegenerative disorders

Neuromuscular dystrophies

Skeletal muscle

messenger RNA

protein

aging

Article

gene

gene sequence

genetic association

genetic database

human

Mus musculus

muscle development

nerve degeneration

NeuroMuscleDB

neuromuscular disease

nonhuman

pathogenesis

promoter region

skeletal muscle

taurine cattle

aging

animal

bovine

genetics

mouse

muscle development

neuromuscular disease

nucleotide sequence

Aging

Animals

Base Sequence

Cattle

Databases, Genetic

Humans

Mice

Muscle Development

Neuromuscular Diseases