Evaluation of Muscle Atrophy

This product is not intended for diagnostic or medical purposes.

Monitoring Urinary Titin in Muscle Atrophy Model induced by Dexamethasone

- Method -

BALB/C 7-week-old males mice (Japan SLC, Inc.) were divided into 2 groups (5 animals each) and treated with the following water and normal diet.

1. Control (DMSO water: solvent)
2. Dexamethasone*) (10mg/L) dissolved water

*) 047-18863: FUJIFILM Wako Pure Chemical Corporation

- Result -

Measuring Titin N-Fragment (dilution 10-fold) in urine samples collected on Day 15, Day 19, and Day 30. Also, measuring Urinary Creatine.

Urinary Titin N-Fragment (creatine-corrected) was elevated in the dexamethasone-feed group.

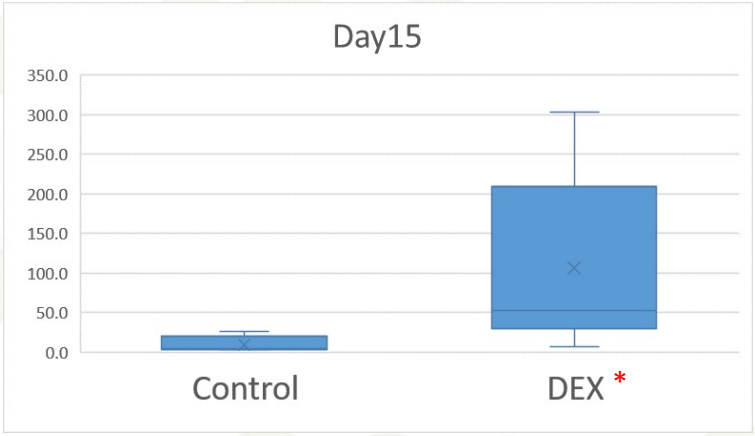
- Discussion -

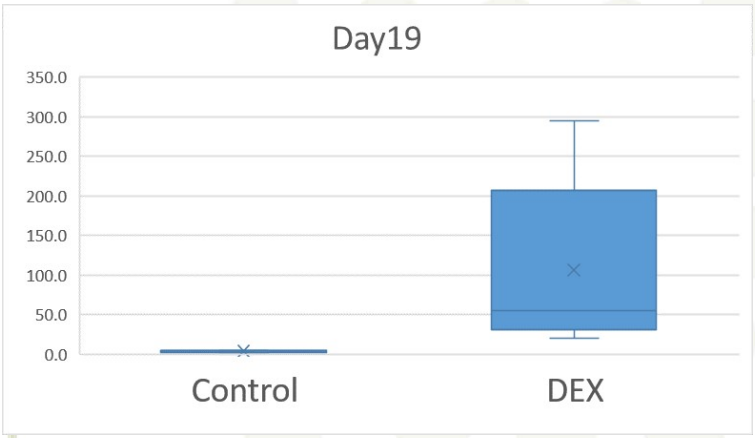
Dexamethasone treatment is commonly used as an in vitro muscle atrophy model for cultured myotubular cells.

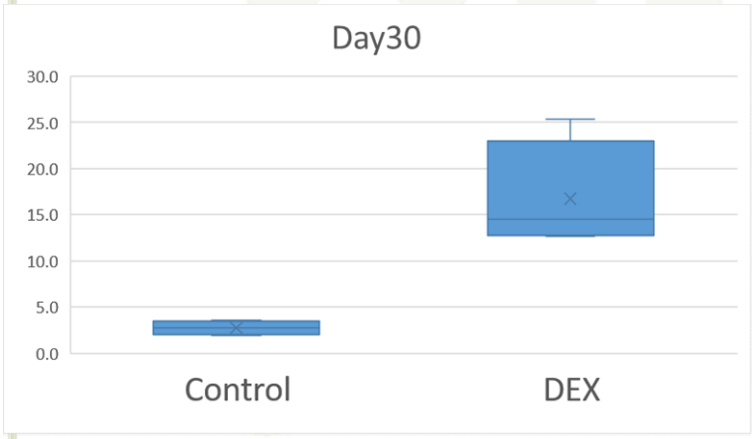
In this study, muscle atrophy is induced by feeding mice with dexamethasone dissolved water for evaluation of food ingredient that inhibits muscle atrophy.

The study concluded Titin N-Fragment, which reflects myolysis in urine, may be an useful biomarker for dexamethasone-induced muscle atrophy model.

- Animal Test Data -







*DEX: Dexamethasone

Data provided by: Katsuhiro Miyajima, Professor, Laboratory of Food Safety Assessment Science, Department of Nutritional Science and Food Safety, Faculty of Applied Bioscience, Tokyo University of Agriculture.

ELISA

#27602 Mouse Titin N-Fragment (Urine) ELISA Kit – IBL

- Sample : Urine
- Measurement range : 75 - 4,800 pmol/L
- Dilution ratio : more than 10x
- Sensitivity : 22.8 pmol/L

References

WO/2015/166887 MUSCLE ATROPHY INHIBITOR CONTAINING QUERCETIN GLYCOSIDE

Distributed by