

Supplementary Figures legends

Supplementary Figure S1: Correlation between *Lcn2*, *Il1b* and *Tnfa* mRNA expression. Correlation studies were ran on diaphragm, quadriceps, EDL and *soleus* muscles collected from MDX mice between the transcriptional expression of *Lcn2* and (A) *Il1b* or (B) *Tnfa*. The same analysis was performed between *Lcn2* and (C) *Il1b* or (D) *Tnfa* on muscles collected from WT mice. Pearson's correlation test.

Supplementary Figure S2: Evaluation of the bone phenotype by μ CT. Representative 3D sections of tibiae explanted from 3-, 6- and 12- month-old WT, *Lcn2*^{-/-}, MDX and MDXx*Lcn2*^{-/-} mice, fixed in 4% paraformaldehyde and subjected to μ CT analysis.

Supplementary Figure S3: Evaluation of the bone phenotype by histomorphometry. Tibiae explanted from 6-month-old WT, *Lcn2*^{-/-}, MDX and MDXx*Lcn2*^{-/-} mice were fixed in 4% paraformaldehyde, embedded in poly-methyl-methacrylate, and sectioned at 5 μ m. Sections were then subjected to (A) TRAcP activity staining or (B) toluidine blue staining to perform histomorphometric analysis of osteoclast and osteoblast parameters, respectively. Arrowheads in (A) point at osteoclasts, arrows in (B) point at osteoblasts.

Supplementary Figure S4: Effect of *Lcn2* genetic ablation on bone phenotype of 12-month-old MDX mice. (A) MicroCT analysis performed on proximal tibiae explanted from 12-month-old *Lcn2*^{-/-}, MDX and MDX mice crossbred with *Lcn2*^{-/-} (MDXx*Lcn2*^{-/-}) and their respective WTs (BL6, BL10, BL6x10 respectively) to evaluate trabecular bone volume/tissue volume (BV/TV%), (B) trabecular number (Tb.N), (C) thickness (Tb.Th) and (D) separation (Tb.Sp). *p<0.05, **p<0.01 and ***p<0.001 between the indicated groups. One-way ANOVA.

Supplementary Figure S5: Kidney and liver pathological examination after IgG or Lcn2Ab curative treatment. Kidney and liver were explanted from mice treated with IgG or Lcn2Ab (see main figure 6A), fixed in 4% paraformaldehyde, embedded in paraffin, sectioned at 5 μ m and subjected to (A,D) haematoxylin/eosin staining to evaluate histological appearance. (B,E) Masson's Trichrome staining to assess (B) kidney and (E) liver fibrosis. (C,F) ELISA assay to evaluate serum levels of (C) the kidney damage marker urea, and (F) the liver damage marker alanine transaminase (AST). One-way ANOVA. **p<0.01 between the indicated groups.