Figure 1a
RFLP from mouse tissue, splicing of mH2A1 isoforms.

Samples order in the frame: Control 1, control 2, Skeletal muscle, liver, brain, testis, kidney, spleen, small intestin, big intestin, lung. (macroH2A1.1 band observed at 131bp; macroH2A1.2 observed with two bands at the same 89 bp)

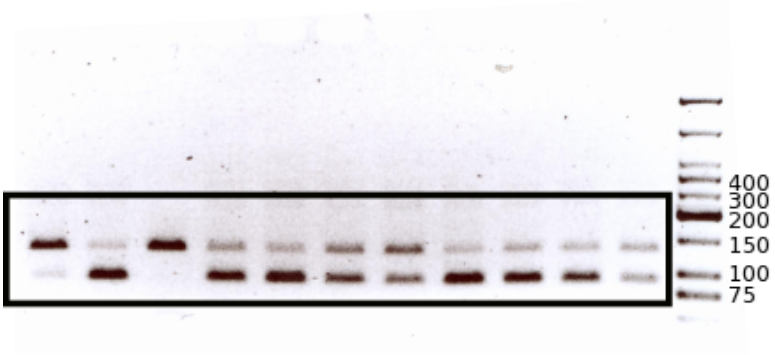


Figure 1b
Western Blot. Same gel, samples loaded twice.

Sample order in the frames: skeletal muscle, nothing, DKD_Flag_mH2A1.1, DKD_Flag_mH2A1.2, DKD_Flag_mH2A2.

Antibodies tested: On the left mH2A1.1 and on the right Flag.

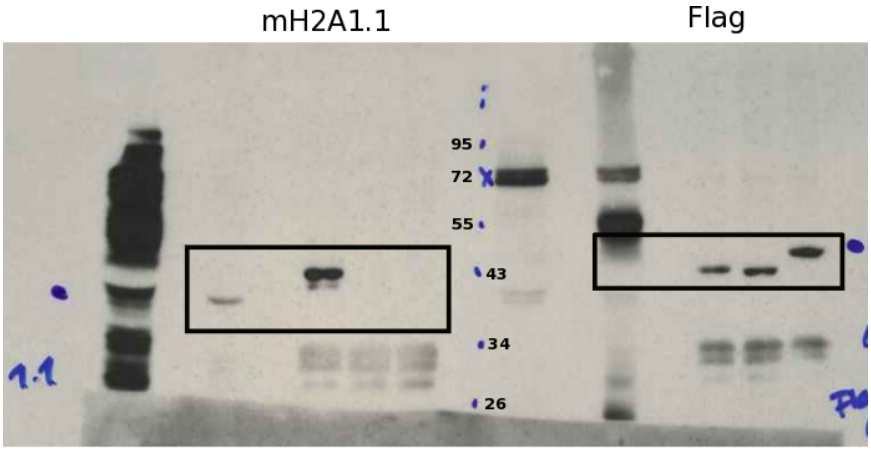


Figure 1c

RFLP on three set of samples. In human, one band for mH2A1.1 at 191 bp and two bands for mH2A1.2: 79 and 119bp. In mouse, one band for mH2A1.1 at 131 bp (another band at 36bp is not observable), two bands for mH2A1.2 both at 89bp.
First one: in the frame, samples order: Human primary myoblasts in proliferation (0), 2_4_6 days of differentiation.
Second one: in the frame, samples orfer: Mouse primary myoblasts in proliferation (0), 1_2_4 days of differentiation.
Third one: in the frame, samples order: C2C12 myoblasts in proliferation (0), 1_4 days of differentiation.

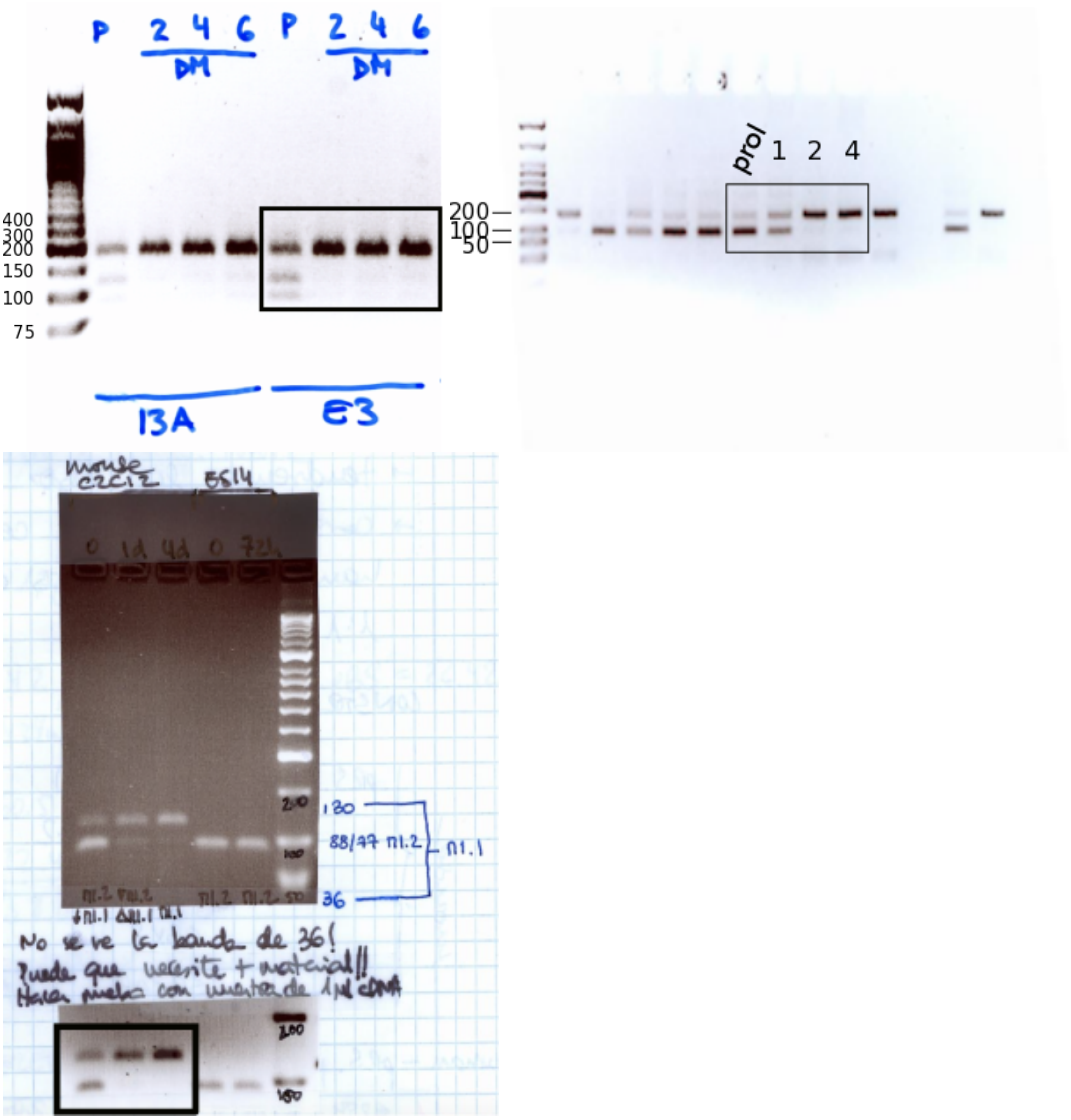


Figure 1e
Western Blot of C2C12 myoblasts through differentiation.

Samples order in the frames: proliferation "0", days of Differentiation "2 and 4"

Antibodies tested: embryonic Myosin Heavy Chain (eMHC), Myogenin (MyoG), macroH2A1.1, macroH2A1.2 and Histone H3.

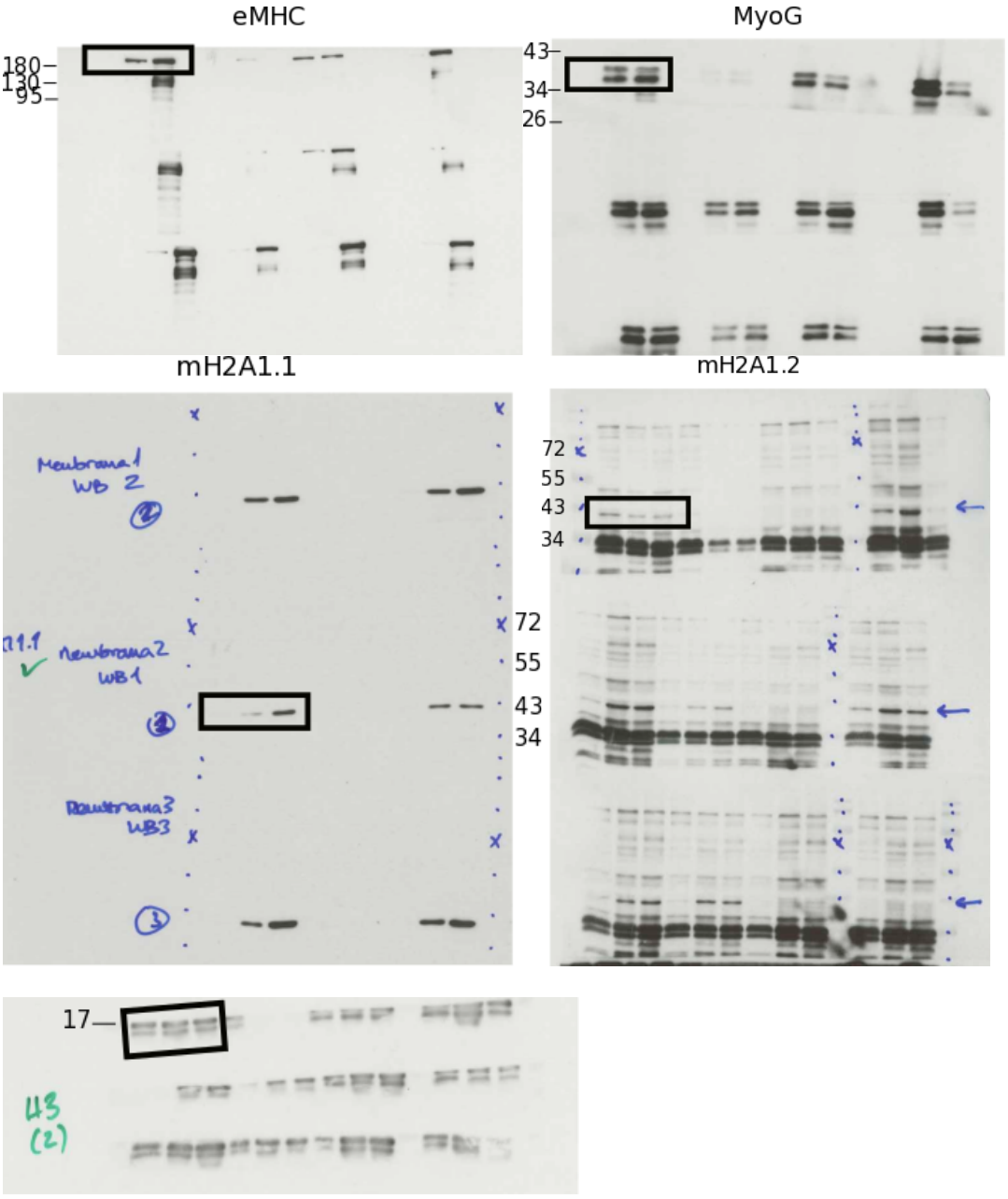


Figure 3f

Western Blot. Control of the different constructs in HEPG2/DKD cells. Samples were loaded twice on the same gel. All images are different exposure from the same membrane.

Samples order in the frames: HEPG2, HEPG2_Double_Knock_Down (DKD), 3=DKD_YFP_mH2A1.1, 4=DKD_YFP_G224E, DKD_Flag_mH2A1.1, DKD_Flag_mH2A1.2.

Antibodies tested: mH2A1.1, NPM1, mH2A1.2, Flag.

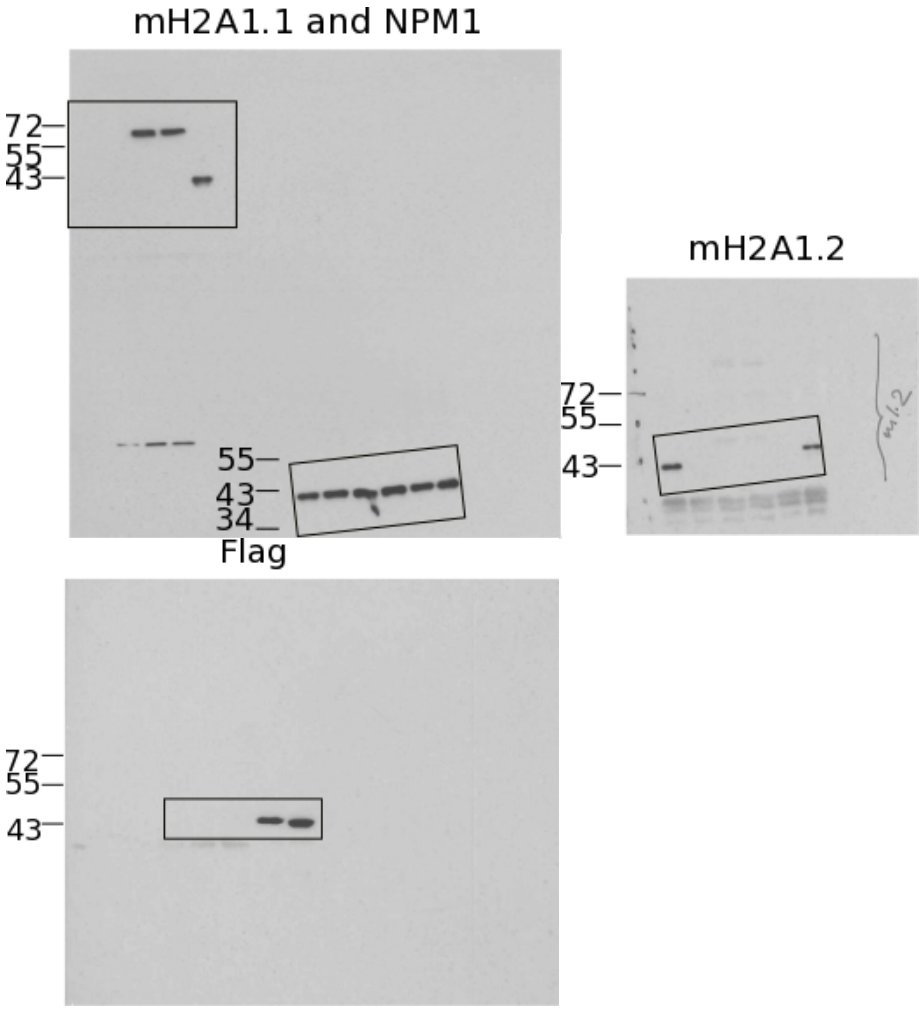


Figure 4b
Western Blot, Rescue experiment. All images are different exposure from the same membrane.

Sample order in the small frame: C2C12 DM4 +sictrl
Sample orders in the bigger frame: C2C12 DM4 + simH2A1.1, C2C12 DM4 + simH2A1.1 + Flag_mH2A1.1, C2C12 DM4 + simH2A1.1 + Flag_G224E

Antibodies tested on the first film: mH2A1.1 and H3
Antibody tested on the last film: Flag

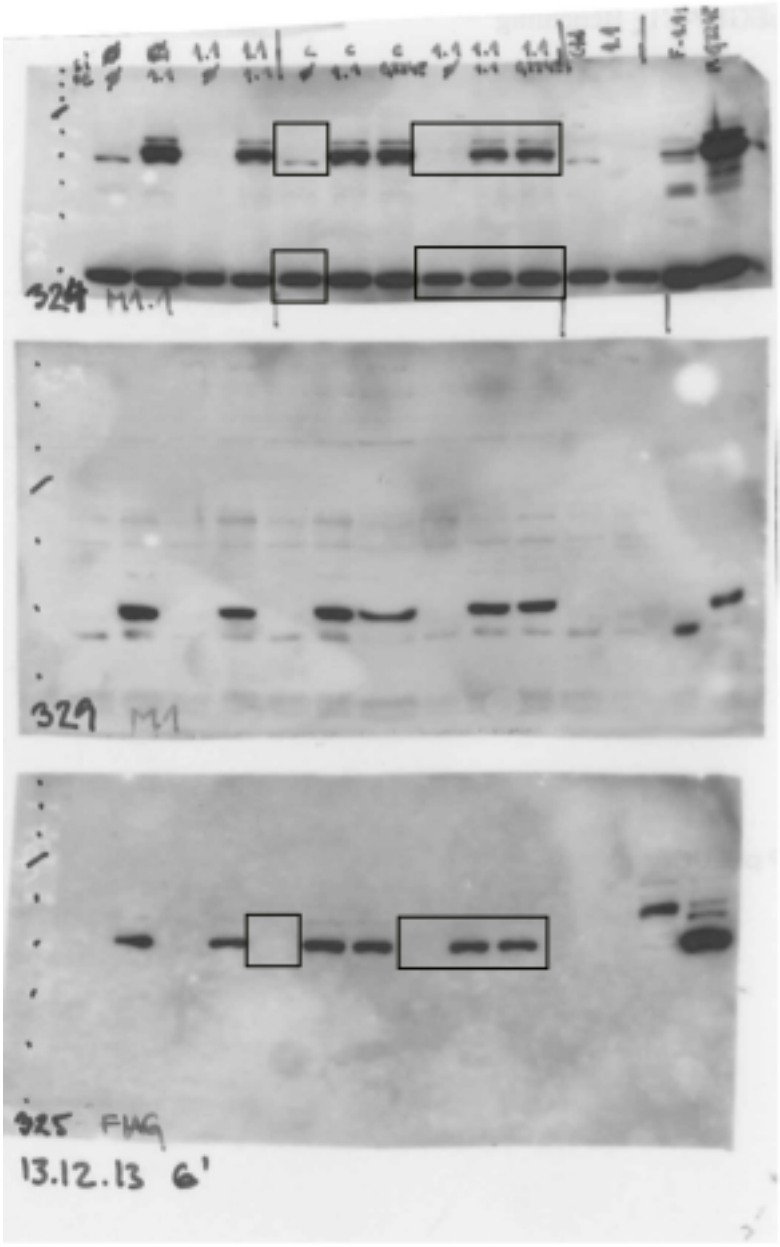


Figure 5c
Western Blot, PARP activity_inhibition by mH2A1.1.

Samples order: negative control (no protein added), different concentrations of mH2A1.1 proteins (1, 10, 25, 50 uM), different concentrations of G224E proteins (1, 10, 25, 50 uM), negative control repeated.

Naphtol Blue conterstaining = loading control of the Western Blot. From the same samples.

Antibody tested: PARylation

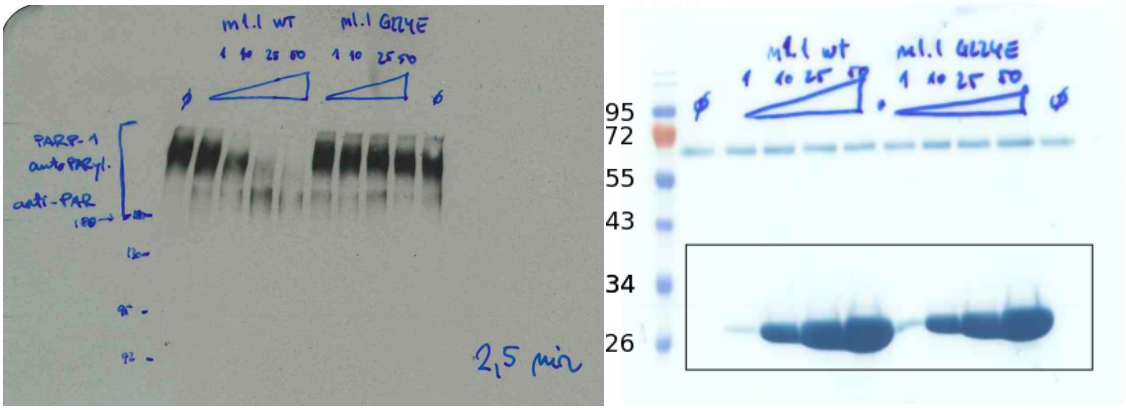


Figure 5b

Western Blot, PARP1 binding in vitro.
All information indicated on the image. All images are different exposure from the same membrane.

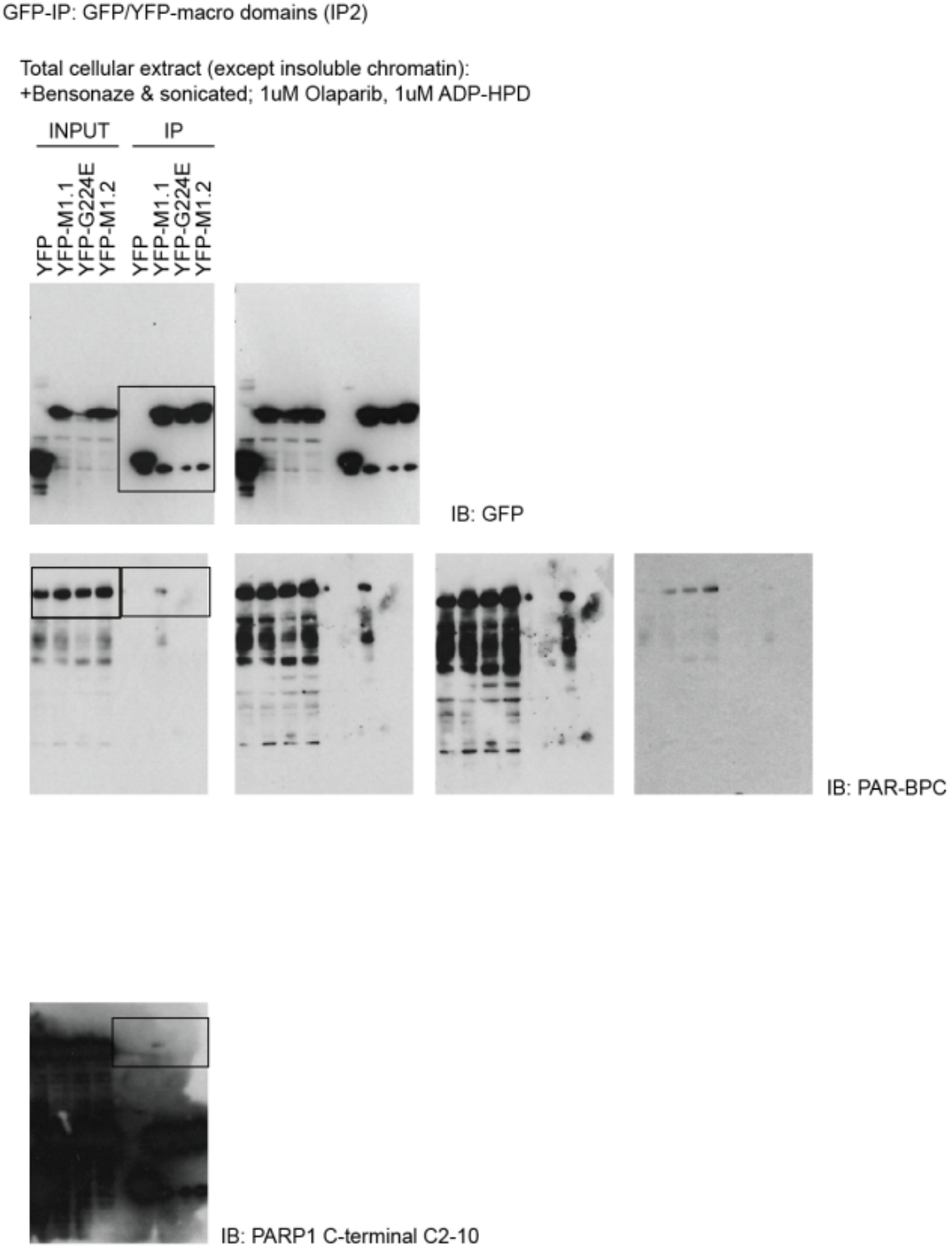


Figure 5d

Western Blot, PARP1-Binding in C2C12. Same gel, samples loaded twice (left and right of the protien ladder). Both images are different exposure from the same membrane

Samples order in the frames:

- Input: C2C12 DM4 (negative control), C2C12 DM4 + Flag-mH2A1.1, C2C12 DM4 + Flag-G224E
- Immunoprecipitation: C2C12 DM4 (negative control), C2C12 DM4 + Flag-mH2A1.1, C2C12 DM4 + Flag-G224E

Antibodies tested:

- on the left: PARP1, Flag and Histone H3
- on the right: PARP1, macroH2A1.1 and Histone H3

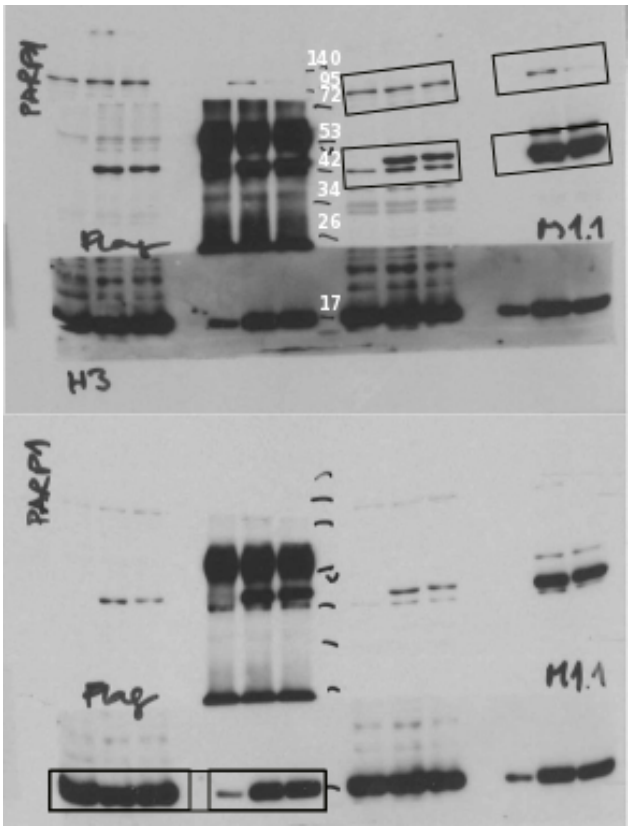
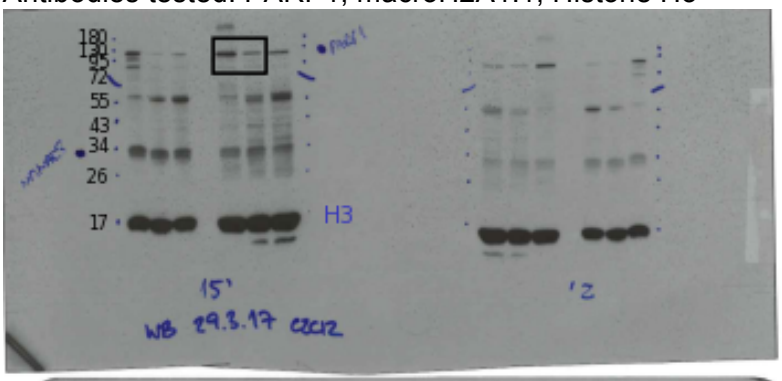


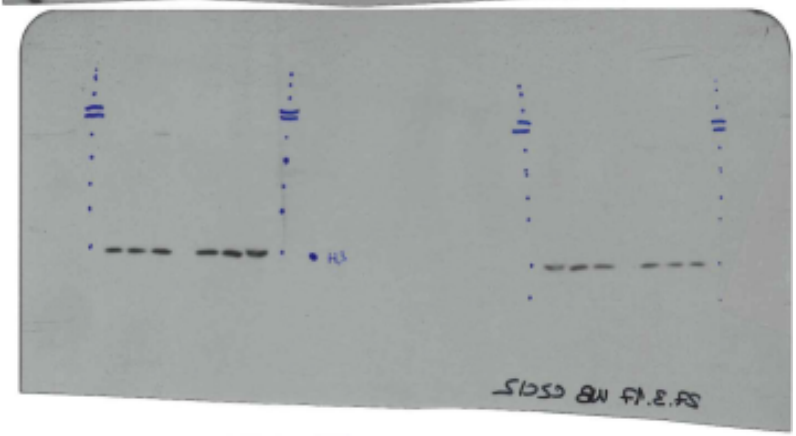
Figure 6b

Western Blot, PARP1 levels during C2C12 differentiation. Images 1,2 and 3 are different exposure from the same membrane (with mirror image for images 1 and 2). For Image 4 the right part of the membrane was reincubated with macroH2A1.1.

Samples order in the frames: C2C12 in proliferation (GM=0), C2C12 Day 4 of differentiation (DM). Films 1_2_3 are different exposition.

Antibodies tested: PARP1, macroH2A1.1, Histone H3





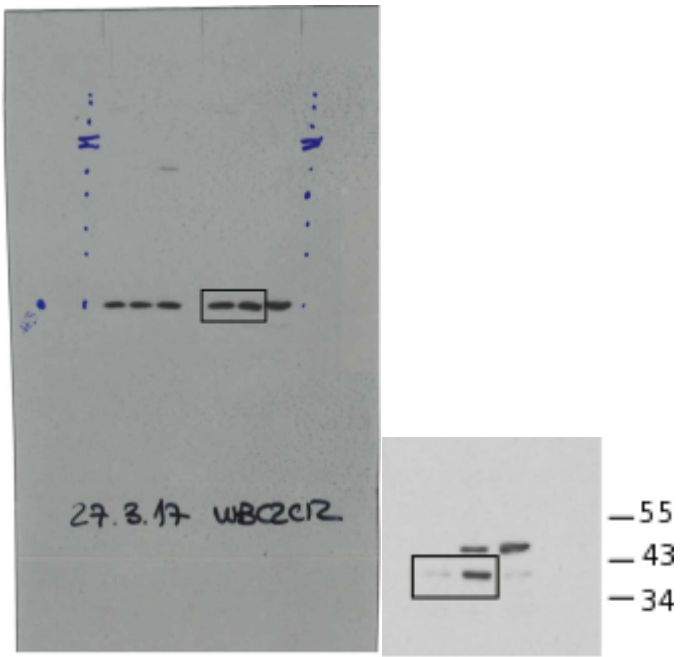


Figure 6c

Western Blot, PARP1 versus macroH2A1.1 signals. Both images are from different exposure from the same membrane.
Sample order in the small frame: C2C12 DM4
Samples order in the bigger frame: different concentration of PARP1 protein (first image on the right (5, 15, 50uM), different concentration of macroH2A1.1 protein (second image in the middle (5, 15, 50uM).

Antibodies tested: PARP1 and macroH2A1.1

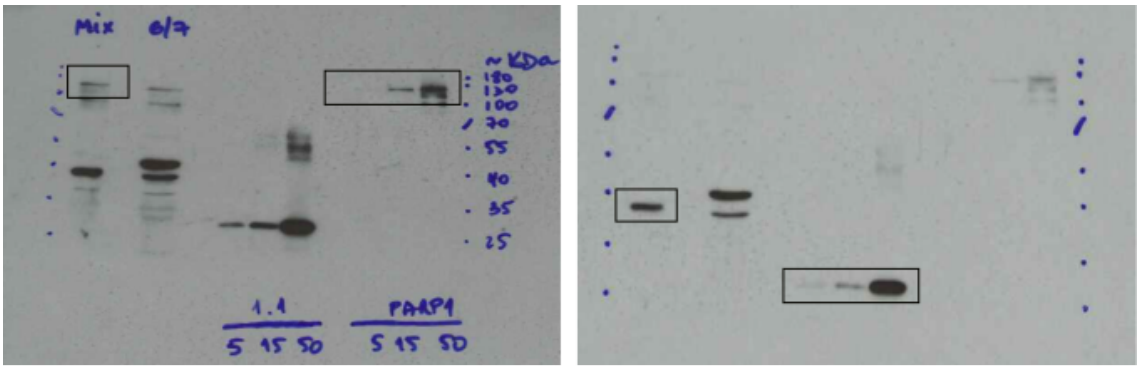


Figure S1e

Western Blot, Mouse primary myoblast during differentiation. Images 1 and 2 are different exposure from the same membranes. The last image was a reincubation of the membrane 1 (used previously for macroH2A1.1) with Myogenin antibody. The same samples were loaded in membrane 1 and 2.

Samples order in the frame: mouse primary myoblast in proliferation (0), at day 1,2 and 4 of differentiation.

Antibodies tested: eMHC, macroH2A1.1, macroH2A1.2, Histone H3, Myogenin.

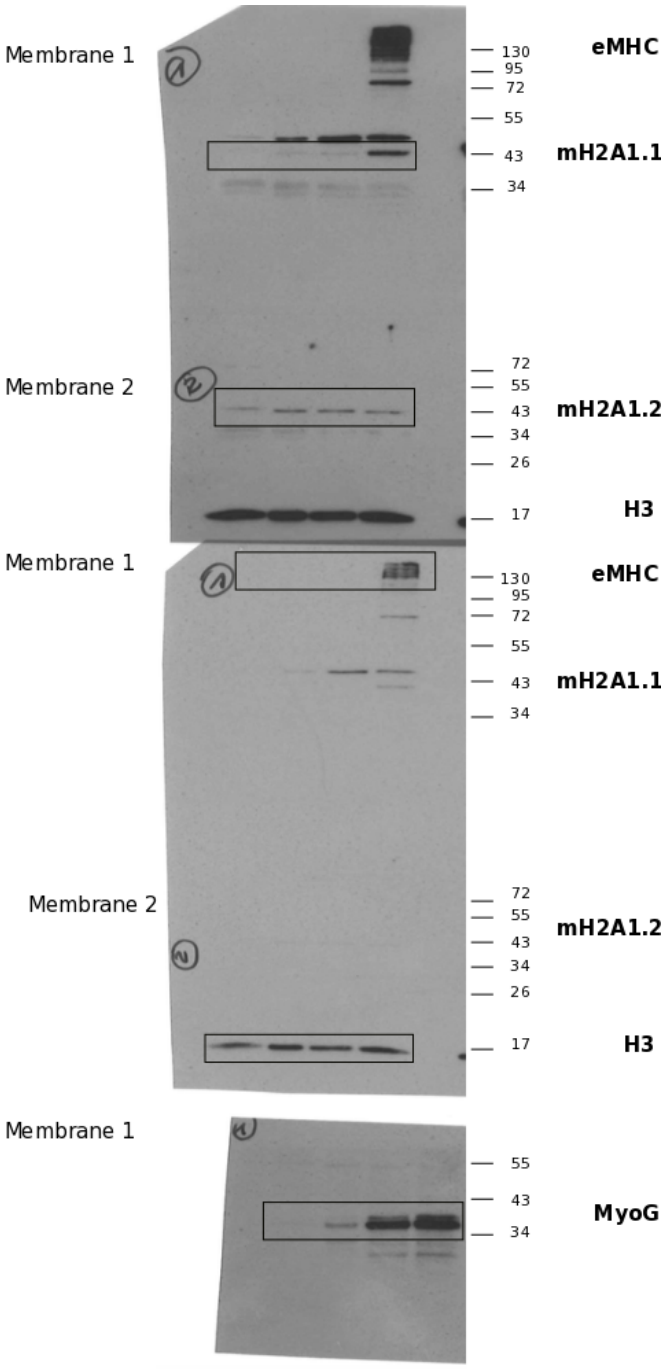


Figure S1f

Western Blot, endogenous macroH2A isoforms compared to Flag-tagged reference proteins. The same samples were loaded on 2 gels (up and down of each images), and twice on the same gel (left and right of each images). All images are different exposure of the same membranes.

Samples order in the frame: C2C12 + sicontrol, C2C12 + simacroH2A1.1, DKD_Flag_macroH2A1.1, DKD_Flag_macroH2A1.2, DKD_Flag_macroH2A2

Antibodies were tested as described in the small table:

macroH2A2 Histone H3	macroH2A1.2 Histone H3

macroH2A1.1 Histone H3	Flag Histone H3

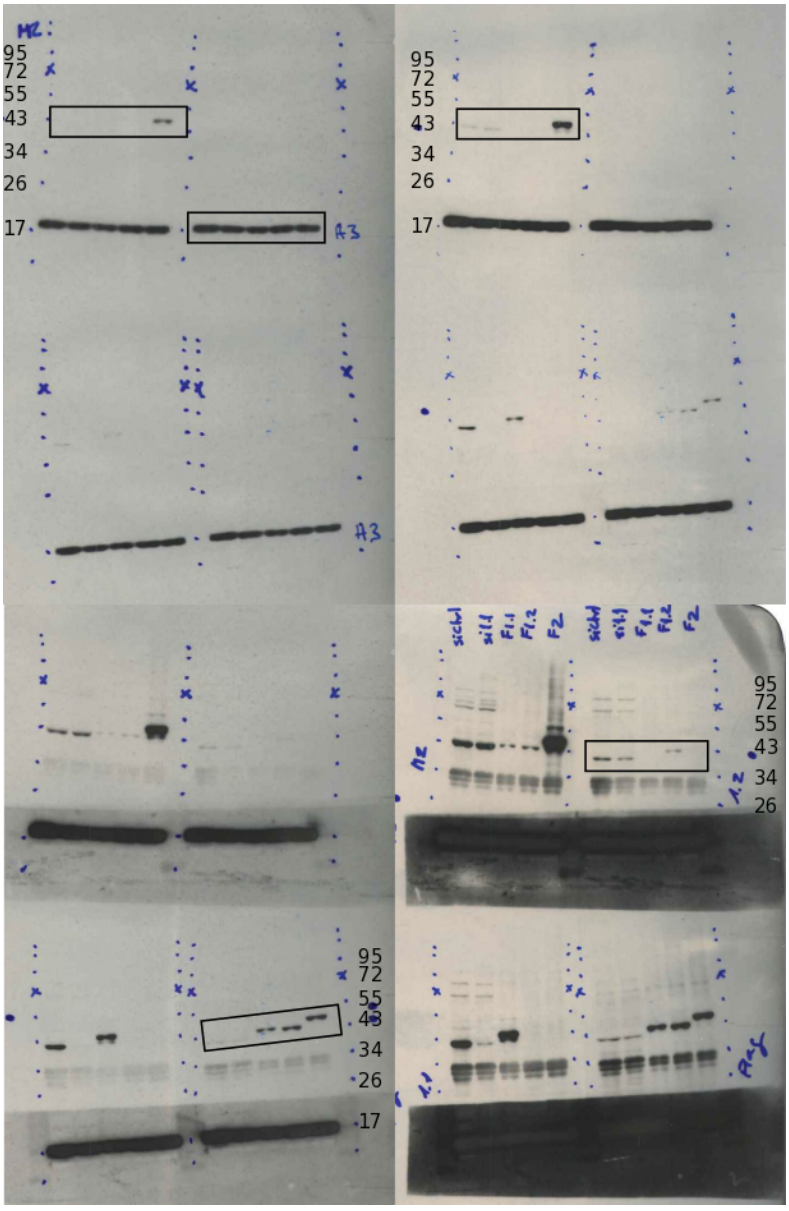


Figure S2c
Western Blot, Cell fractionation (macroH2A1.1 in the Chromatin). All images are different exposure from the same membrane. The same samples were loaded twice on the same gel.

Samples order: C2C12 cytosol (cyto frac), Total Nuclei (TNE), Nucleosol (FNE), Chromatin (Chroma)

Antibodies tested: Tubulin, macroH2A1.1, Nucleophosmin (NPM), Histone H3

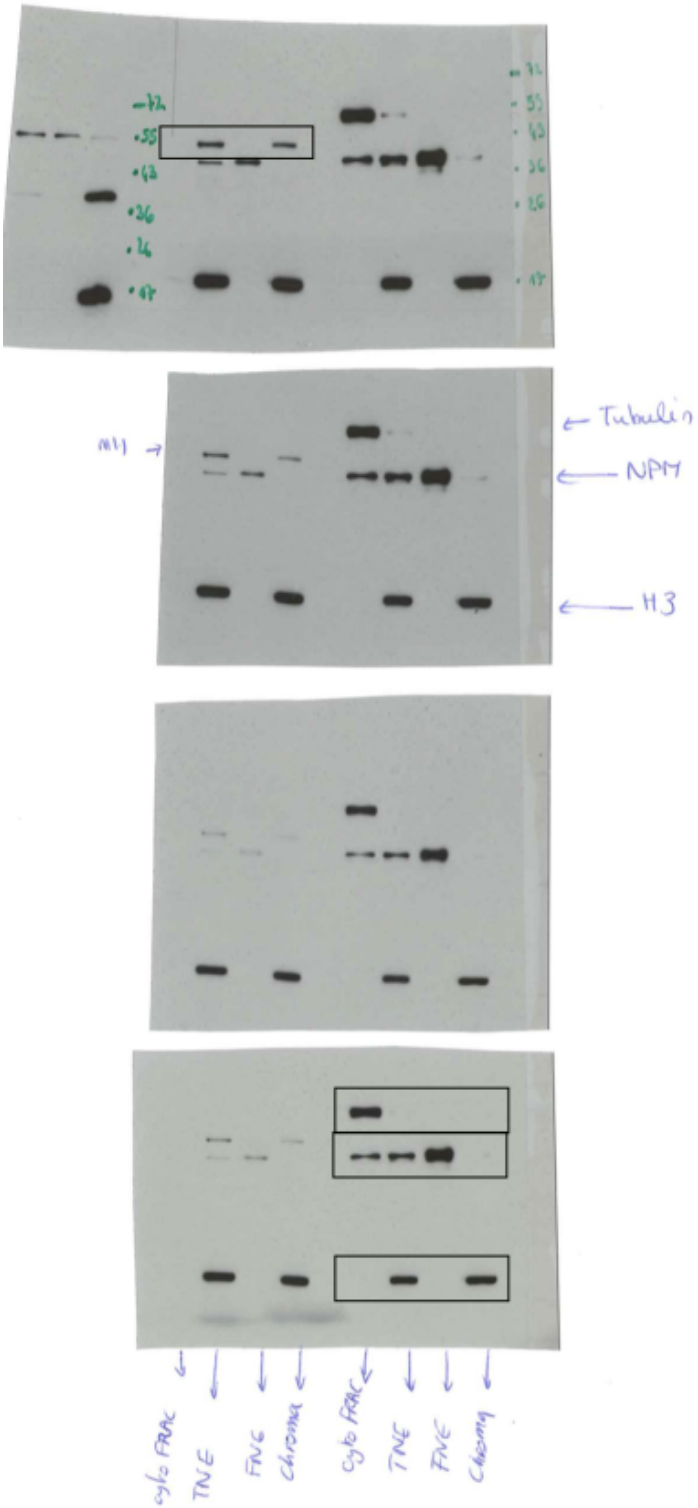


Figure S4a
Western Blot, Mitochondrial isolation.

Samples order: From a triplicate of C2C12 DM4-> Nuclei fraction = Pellet 1 and Mitochondria = Final pellet.

Antibodies tested: upper = Ndufa9, lower = Histone H3