SUPPLEMENTARY INFORMATION

Material and Methods

The sequences of the mouse *COPR5* sh1, sh2 and sh3 RNAs used in Fig1 and Fig.S1 are:

5' sh1s 244-262: GCTTTGCAGTGGAGAAGGA

5 ' sh2s 379-397: GAAATCCTTACGATGCTGA

5 ' sh3s 659-677: GACTCCTCAGTGTGG GCTA

The sequence of the human *COPR5* shRNA used in Fig1 is

5' sh 764-782: CAGTCTGTTGTTGTTCTTA

Sequence of the oligonucleotides used for RTqPCR:

MHC mouse 5'f GAGATGGCCACCATGAAG, 5'r CACCTTATTCTCCGTGGC

MHC human 5'f CCCTCCTCAAAAGTGCAGAG, 5'r TCCTTTTTGCCTCGGTCTTA

MYOG mouse 5'f CCTTTCCAGGGAGGTAAAGC, 5'r GAGGCCGCGTTATGATAAAA

P21 5'f TGTCCAATCCTGGTGATGTCC, 5'r TCAGACACCAGAGTGCAAGAC

P27 5' f TTCTTCTGTTCTGTTGGCCC, 5'r GTCTCAGGCAAACTCTGAGG

P57 5'f GCGGCGATCAAGAAGCTGTC, 5'r CCGGTTGCTGCTACATGAAC

RB mouse 5'f CACGAATGCAAAAGCAGAGA, 5'r ACAACCATGAGCCAGGAGTC

P8 mouse 5'f AGGACCTAGGCCTGCTTGAT, 5'r CTCTGCTTCTTGCTCCCATC

HES1 mouse 5'f AAAGACGGCCTCTGAGCACA, 5'r TCATGGCGTTGATCTGGGTCA

HES6 mouse 5'f CTCCTGAACCACCTGCTAGAATC, 5'r GGGAGTCCCCCAGCAGAT

PRMT4 mouse 5'f GCAGCAGAACATGATGCAGG, 5'r GATCGCACGCTGGTAGGTG

PRMT5 5'f ATTGCGTCCCCGAAATAGCT, 5' r GCGGATGGAAGACAGGCAT

COPR5 mouse 5'f GGCTGCAGATCTTTTTAATGAGGA, 5' r CCTGGATGTCATCAGCATCGT

human 5'f TGGAACACAGAGCATTCCTAATGA, 5'r TCATCCATGGCAAAGCCTTC

Sequence of the oligonucleotides used for CHIP:

P21 5'f TCTCGGAGACCAGCAGCAAA, 5'r TGGCAAAGTGGGACGTCCTT

P57 5' f TCTGTCAGGCCATGTCGG, 5'r AGTTGGGCCCATCCTAGC

MYOG 5'f GAATGCACCCACCCCCCTC, 5'r CCCCTCACGCCAACTGCT

MYOD1 5'f CCTGGGGCTATTTATCCCCAGGGTAGCC, 5'r TAGACCACTGGAGAGGCTTGGGCAG

P8 5'f GTGACAGGAACTGCTGACCA, 5'r AGCCCTGTCTGATGCAATCT

Human primary cells : Human myoblasts, obtained from quadriceps muscle biopsies of a control adult ("AFM-BTR Banque de tissus pour la recherche" (Hôpital de la Pitié-Salpêtrière, Paris, France) were kindly provided by G Carnac. Human myoblasts were initially prepared, purified and cultured as previously described [1].

Immunofluorescence studies were performed using an anti-MHC antibody from Santa Cruz (H300) and used as described by the manufacturer.

Supplementary references

1. Barro, M, Carnac, G, Flavier, S, Mercier, J, Vassetzky, Y and Laoudj-Chenivesse, D, (2010) Myoblasts from affected and non-affected FSHD muscles exhibit morphological differentiation defects. J Cell Mol Med 14: 275-89.
2. Milasincic, DJ, Dhawan, J and Farmer, SR, (1996) Anchorage-dependent control of muscle-specific gene expression in C2C12 mouse myoblasts. In Vitro Cell Dev Biol Anim 32: 90-9.