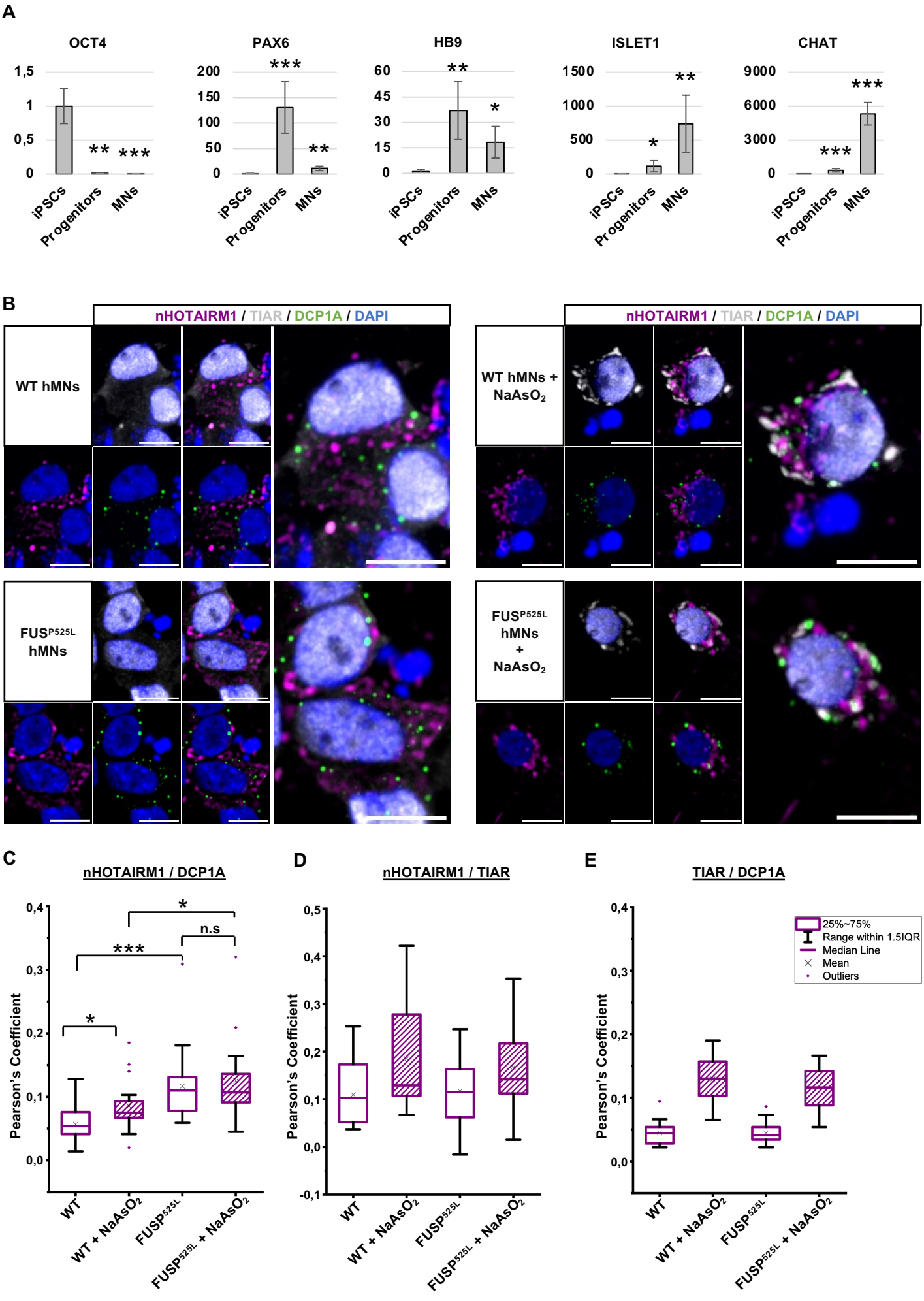
A
OCT4
PAX6
HB9
ISLET1
CHAT
iPSCs
Progenitors
MNs
B
nHOTAIRM1 / TIAR / DCP1A / DAPI
WT hMNs
WT hMNs + NaAsO2
FUSP525L hMNs
FUSP525L hMNs + NaAsO2
C
nHOTAIRM1 / DCP1A
D
nHOTAIRM1 / TIAR
E
TIAR / DCP1A
Pearson's Coefficient
n.s
25%~75%
Range within 1.5IQR
Median Line
Mean
Outliers
WT
WT + NaAsO2
FUSP525L
FUSP525L + NaAsO2

Supplementary Fig 4 – nHOTAIRM1 differently associates with p-bodies in FUS^{P525L} MNs and upon oxidative stress.

A Expression levels quantified through qPCR of staminality marker OCT4, differentiation marker PAX6, motor neuron commitment marker HB9, mature motor neuron marker ISLET1 and CHAT in induced pluripotent stem cells (iPSC), neuronal progenitors and fully differentiated motor neurons (MNs). ***p ≤ 0,001, **p ≤ 0,01 and *p ≤ 0,05 correspond to two tails unpaired Student's t-test (N=3) calculated on DCt of selected markers normalized on the reference gene ATP5O comparing expression in progenitors or MNs with expression in iPSCs.

B Combination of smFISH and IF for the detection of nHOTAIRM1 (magenta), TIAR (grey) and DCP1A (green). The upper panel shows non-stressed (upper left) or stressed (upper right) WT iPSCs derived MNs; the lower panel shows non-stressed (lower left) or stressed (lower right) FUS^{P525L} iPSCs derived MNs; Nuclei stained with DAPI are shown in blue. Scale bars correspond to 10 μm.

C Boxplot representing the value distribution of Pearson's Correlation Coefficient between nHOTAIRM1 and DCP1A in WT, WT stressed, FUS^{P525L}, FUS^{P525L} stressed iPSCs derived MNs from 3 independent biological replicates. Horizontal lines in boxplots indicate median values; boxes extend from the 25th to the 75th percentile of each group's distribution of values; magenta diamonds represent outliers. ***p ≤ 0,001, and *p ≤ 0,05 correspond to two tails unpaired Student's t-test (N_{WT} =19 acquisitions; $N_{WT+NaAsO_2}$ = 19 acquisitions; $N_{FUS^{P525L}}$ = 16 acquisitions; $N_{FUS^{P525L}+NaAsO_2}$ = 17 acquisitions).

D Boxplot representing the value distribution of Pearson's Correlation Coefficient between nHOTAIRM1 and TIAR in WT, WT stressed, FUS^{P525L}, FUS^{P525L} stressed iPSCs derived MNs from 3 independent biological replicates. Horizontal lines in boxplots indicate median values; boxes extend from the 25th to the 75th percentile of each group's distribution of values; magenta diamonds represent outliers.

E Boxplot representing the value distribution of Pearson's Correlation Coefficient between TIAR and DCP1A in WT, WT stressed, FUS^{P525L}, FUS^{P525L} stressed iPSCs derived MNs from 3 independent biological replicates. Horizontal lines in boxplots indicate median values; boxes extend from the 25th to the 75th percentile of each group's distribution of values; magenta diamonds represent outliers.