Figure 1

AFM original images of FN coated onto PEA and PMA 20 μg/mL.

Figure 2

Panel images: immunofluorescence original images after 3h of culture of mMSCs cells grown onto Glass control, PEA and PMA corresponding to actin, vinculin and nuclei represented in the Figure 2 panel.

Spreading area and circularity: immunofluorescence original images after 3h of culture of mMSCs cells grown onto Glass control, PEA and PMA corresponding to actin, vinculin and nuclei used for quantification of spreading area and circularity parameters.

Figure 3

FA: immunofluorescence original images corresponding to vinculin after 3h of culture of mMSCs cells grown onto Glass control, PEA and PMA used for quantification of focal adhesions.

WB: original western blot developed images for quantification of FAK and pFAK took at different times (marked in the film). Every film contains 3 replicas of the gel. Bands at the right side of the gel correspond to pFAK and bands at the left side correspond to FAK (130 KDa). Bands between 55-72 KDa correspond to loading control α-tubulin. The order loaded in the SDS-PAGE was: PEA, PMA and Glass (left to right).

Figure 4

Ad: immunofluorescence original images showing mMSC morphology after 15 days of culture corresponding to actin and nuclei staining of cells cultured on Glass (adipogenic differentiation conditions) and PEA, PMA (basal conditions).

Ob: immunofluorescence original images showing mMSC morphology after 15 days of culture corresponding to actin and nuclei staining of cells cultured on Glass (osteogenic differentiation conditions) and PEA, PMA (basal conditions).

Figure 5

Oil Red O:

-Image panel: contrast phase original pictures showing Oil Red O staining of mMSCs cultured 15 days onto different substrates. Glass represents positive control of adipocyte cultured with adipogenic medium. MSCs grown onto PEA and PMA were cultured with basal medium.

-Image quantification: contrast phase original pictures showing Oil Red O staining for quantification of adipogenic differentiation.

OPN:

-Image panel: : immunofluorescence original images showing mMSC morphology after 15 days of culture corresponding to OPN and nuclei staining of cells cultured on Glass (osteogenic differentiation conditions) and PEA, PMA (basal conditions).

-Image quantification: immunofluorescence original images showing OPN and nuclei staining used for OPN quantification.

Runx2:

-Image panel: : immunofluorescence original images showing mMSC morphology after 3 days of culture corresponding to Runx2 staining of cells cultured on Glass (osteogenic differentiation conditions) and PEA, PMA (basal conditions).

- Image quantification: immunofluorescence original images showing Runx2 staining used for Runx2 quantification.

Sca1:

-Image panel: : immunofluorescence original images showing mMSC morphology after 15 days of culture corresponding to Sca1 and nuclei staining of cells cultured on Glass, PEA and PMA (basal conditions).

- Image quantification: immunofluorescence original images showing Sca1 and nuclei staining used for Sca1 quantification.

Figure 6

Oil Red O 15d ADM:

-Image panel: contrast phase original pictures showing Oil Red O staining of mMSCs cultured 15 days onto different substrates under adipogenic differentiation conditions.

-Image quantification: contrast phase original pictures showing Oil Red O staining for quantification of adipogenic differentiation.

Oil Red O 15d BM + 15d ADM

-Image panel: contrast phase original pictures showing Oil Red O staining of mMSCs cultured 15 days onto different substrates under basal conditions followed with 15 days of culture under adipogenic differentiation conditions.

-Image quantification: contrast phase original pictures showing Oil Red O staining used for quantification of adipogenic differentiation.

OPN 15d ODM:

-Image panel: : immunofluorescence original images showing mMSC morphology after 15 days of culture corresponding to OPN and nuclei staining of cells cultured under osteogenic differentiation conditions.

-Image quantification: immunofluorescence original images showing OPN and nuclei staining used for OPN quantification.

OPN 15d BM + 15d ODM:

-Image panel: : immunofluorescence original images showing OPN and nuclei staining of mMSC cultured 15 days under basal conditions followed with 15 days of culture under osteogenic differentiation conditions.

-Image quantification: immunofluorescence original images showing OPN and nuclei staining used for OPN quantification.

Runx2 3d ODM

-Image panel: : immunofluorescence original images showing mMSC morphology after 3 days of culture corresponding to Runx2 staining of cells cultured under osteogenic differentiation conditions.

- Image quantification: immunofluorescence original images showing Runx2 staining used for Runx2 quantification.

Runx2 15d BM + 3d ODM:

-Image panel: : immunofluorescence original images showing Runx2 staining of mMSC cultured 15 days under basal conditions followed with 3 days of culture under osteogenic differentiation conditions.

- Image quantification: immunofluorescence original images showing Runx2 staining used for Runx2 quantification.

Sca1 15d

-Image panel: immunofluorescence original images showing Sca1 and nuclei staining of mMSC cultured 15 days under basal conditions.

-Image quantification: immunofluorescence original images showing Sca1 and nuclei staining used for Sca1 quantification.

Sca1 30d:

-Image panel: immunofluorescence original images showing Sca1 and nuclei staining of mMSC cultured 30 days under basal conditions.

-Image quantification: immunofluorescence original images showing Sca1 and nuclei staining used for Sca1 quantification.

Figure 7

a) BM: original qPCR data corresponding to expression of Runx2, PPAR, LPL, OPN, Sca1 and CD29 genes amplified from cell extractions of mMSCs cultured under basal conditions.

b) DM: original qPCR data corresponding to expression of Runx2, PPAR, LPL, OPN, Sca1 and CD29 genes amplified from cell extractions of mMSCs cultured under differentiation conditions.

BM + DM: original qPCR data corresponding to expression of Runx2, PPAR, LPL, OPN, Sca1 and CD29 genes amplified from cell extractions of mMSCs cultured 15 days under basal followed with 15 days of culture under differentiation conditions.

Figure 8

Original qPCR data corresponding to expression of Runx2, OPN, Sca1 and CD29 genes amplified from cell extractions of mMSCs cultured under basal conditions and treated with contractility inhibitors.

Supplementary

S-1: immunofluorescence original images after 3h of culture of mMSCs cells grown onto Glass control, PEA and PMA corresponding to talin, tensin and corresponding nuclei represented in the Figure S-1 panel.

S-2: immunofluorescence original images after 15 days of culture of mMSCs cells grown onto Glass control (differentiation conditions) PEA and PMA (basal conditions) corresponding to IBSP, OCN and corresponding nuclei represented in the Figure S-2 panel.

S-3:

Blebbistatin 10: immunofluorescent original images after 3h of culture of mMSCs grown onto different substrates with basal medium and contractility inhibitors (Blebbistatin 10 μM) corresponding to actin, pMLC and nuclei staining.

Blebbistatin 20: immunofluorescent original images after 3h of culture of mMSCs grown onto different substrates with basal medium and contractility inhibitors (Blebbistatin 20 μM) corresponding to actin, pMLC and nuclei staining.

Y-27632 10: immunofluorescent original images after 3h of culture of mMSCs grown onto different substrates with basal medium and contractility inhibitors (Y-27632 10 μM) corresponding to actin, pMLC and nuclei staining.

Y-27632 20: immunofluorescent original images after 3h of culture of mMSCs grown onto different substrates with basal medium and contractility inhibitors (Y-27632 20 μM) corresponding to actin, pMLC and nuclei staining.

Control: immunofluorescent original images after 3h of culture of mMSCs grown onto different substrates with basal medium corresponding to actin, pMLC and nuclei staining.