

Figure 5.2 Monocytes (MO) from PE patients co-cultured with HUVECs exhibit an amplified inflammatory response of IL-6

Top panels: Basal levels of IL-6 production by HUVEC monoculture, NP/PE MO monocultures, HUVEC-NP MO co-culture or HUVEC-PE MO co-culture (*left panel*-pg/ml or *right panel*-MFI). **Middle panels:** Graphic representation of the response of HUVEC monoculture, NP/PE MO monocultures, and HUVEC-NP or PE MO co-cultures to LPS, PDG, fibrinogen and HMGB1 (*left panel*-pg/ml or *right panel*-MFI). **Bottom panels:** Graphic representation of the response of HUVEC monoculture, NP/PE MO monocultures and HUVEC-NP or PE MO co-cultures to LPS, PDG, fibrinogen and HMGB1 (*left panel*-fold change (pg/ml) or *right panel*-fold change (MFI)). Fold change was calculated by dividing pg/ml or MFI values over untreated control pg/ml or MFI values and illustrated as mean \pm SEM. Comparisons were made between NP/PE MO monocultures versus NP/ PE co-cultures; NP versus PE mono- or co-cultures; and non-stimulated versus stimulated cultures. Statistical significance was determined by the Mann-Whitney U test to compare NP/PE monocultures versus NP/PE co-cultures and NP mono- or co-cultures versus PE mono- or co-cultures; and One Way ANOVA (Bonferroni multiple comparison test) to compare differences between the unstimulated cells to different stimulators (bacterial and endogenous ligands of TLRs) (n=7-9). **p < 0.01 NP/PE MO vs HUVEC-NP/PE MO, †p < 0.05 PE mono- or co- cultures as compared with NP mono- or co- cultures, ^p < 0.05 non-stimulated control compared with stimulated cultures; and §§§p < 0.001 LPS-treated HUVECs as compared to untreated HUVECs.

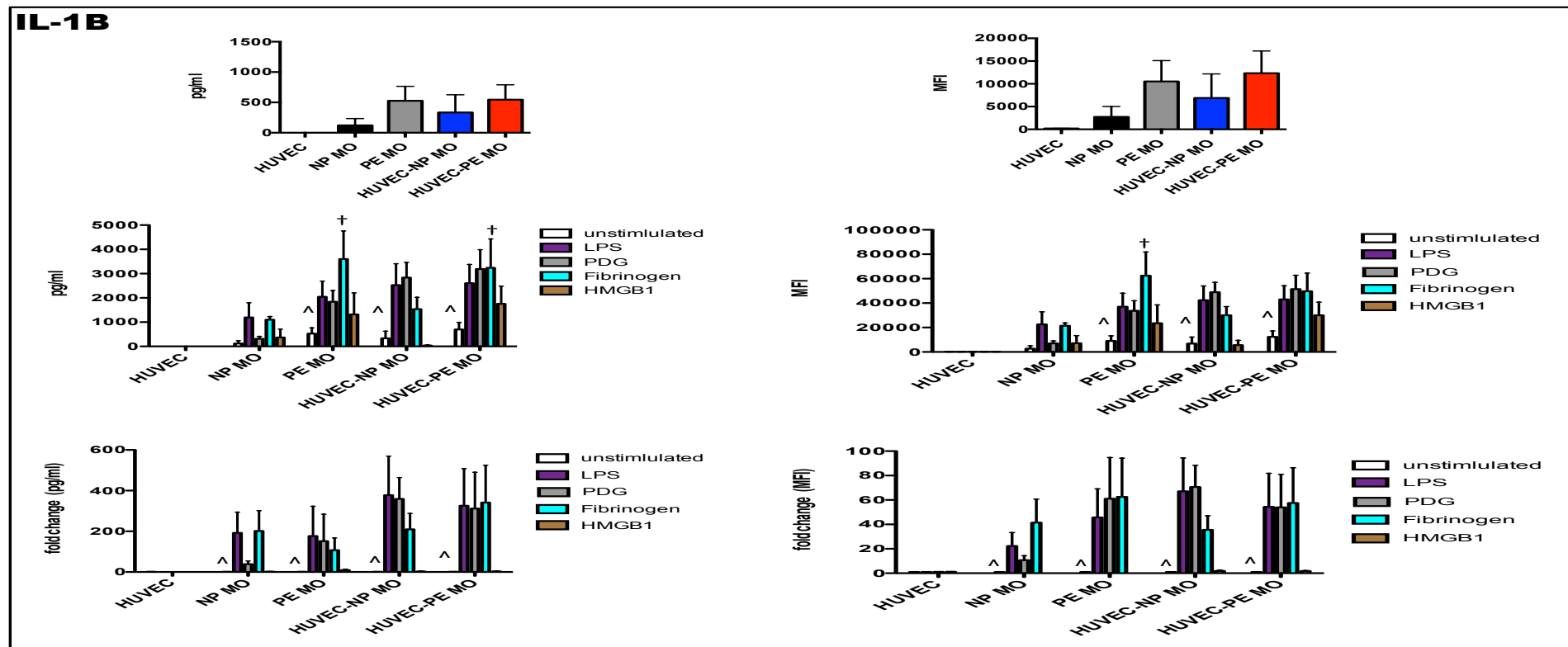


Figure 5.3 Monocytes (MO) from PE patients co-cultured with HUVECs did not exhibit a significant change of IL-1 β

Top panels: Basal levels of IL-1 β production by HUVEC monoculture, NP/PE MO monocultures, HUVEC-NP MO co-culture or HUVEC-PE MO co-culture (*left panel*-pg/ml or *right panel*-MFI). **Middle panels:** Graphic representation of the response of HUVEC monoculture, NP/PE MO monocultures, and HUVEC-NP or PE MO co-cultures to LPS, PDG, fibrinogen and HMGB1 (*left panel*-pg/ml or *right panel*-MFI). **Bottom panels:** Graphic representation of the response of HUVEC monoculture, NP/PE MO monocultures and HUVEC-NP or PE MO co-cultures to LPS, PDG, fibrinogen and HMGB1 (*left panel*-fold change (pg/ml) or *right panel*-fold change (MFI)). Fold change was calculated by dividing pg/ml or MFI values over untreated control pg/ml or MFI values and illustrated as mean \pm SEM. Comparisons were made between NP/PE MO monocultures versus NP/PE co-cultures; NP versus PE mono- or co-cultures; and non-stimulated versus stimulated cultures. Statistical significance was determined by the Mann-Whitney U test to compare NP/PE monocultures versus NP/PE co-cultures and NP mono- or co-cultures versus PE mono- or co-cultures; and One Way ANOVA (Bonferroni multiple comparison test) to compare differences between the unstimulated cells to different stimulators (bacterial and endogenous ligands of TLRs) (n=7-9). †p < 0.05 PE mono- or co-cultures as compared with NP mono- or co-cultures, ^p < 0.05 non-stimulated control compared with stimulated cultures.

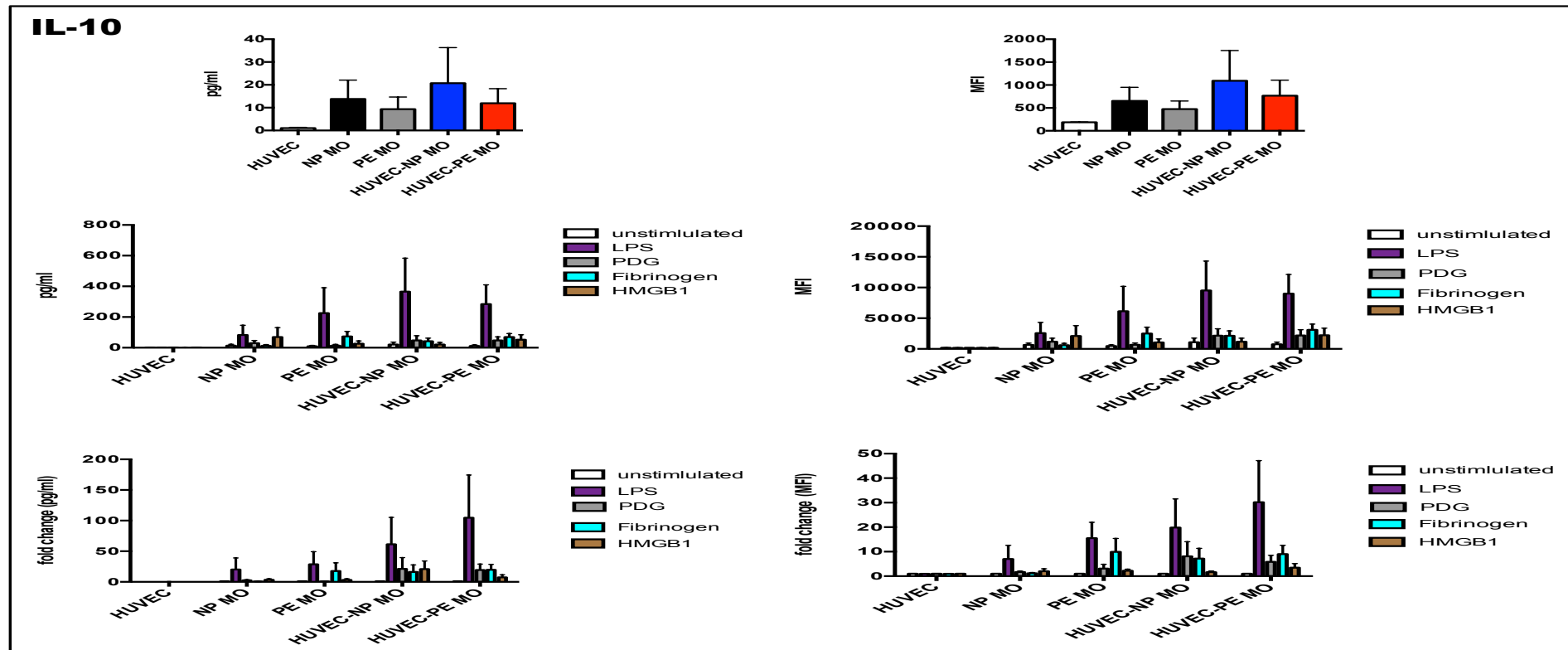


Figure 5.4 Monocytes (MO) from PE patients co-cultured with HUVECs exhibit a declined anti-inflammatory response of IL-10

Top panels: Basal levels of IL-10 production by HUVEC monoculture, NP/PE MO monocultures, HUVEC-NP MO co-culture or HUVEC-PE MO co-culture (*left panel*-pg/ml or *right panel*-MFI). **Middle panels:** Graphic representation of the response of HUVEC monoculture, NP/PE MO monocultures, and HUVEC-NP or PE MO co-cultures to LPS, PDG, fibrinogen and HMGB1 (*left panel*-pg/ml or *right panel*-MFI). **Bottom panels:** Graphic representation of the response of HUVEC monoculture, NP/PE MO monocultures and HUVEC-NP or PE MO co-cultures to LPS, PDG, fibrinogen and HMGB1 (*left panel*-fold change (pg/ml) or *right panel*-fold change (MFI)). Fold change was calculated by dividing pg/ml or MFI values over untreated control pg/ml or MFI values and illustrated as mean \pm SEM. Comparisons were made between NP/PE MO monocultures versus NP/PE co-cultures; NP versus PE mono- or co-cultures; and non-stimulated versus stimulated cultures. Statistical significance was determined by the Mann-Whitney U test to compare NP/PE monocultures versus NP/PE co-cultures and NP mono- or co-cultures versus PE mono- or co-cultures; and One Way ANOVA (Bonferroni multiple comparison test) to compare differences between the unstimulated cells to different stimulators (bacterial and endogenous ligands of TLRs) (n=7-9).

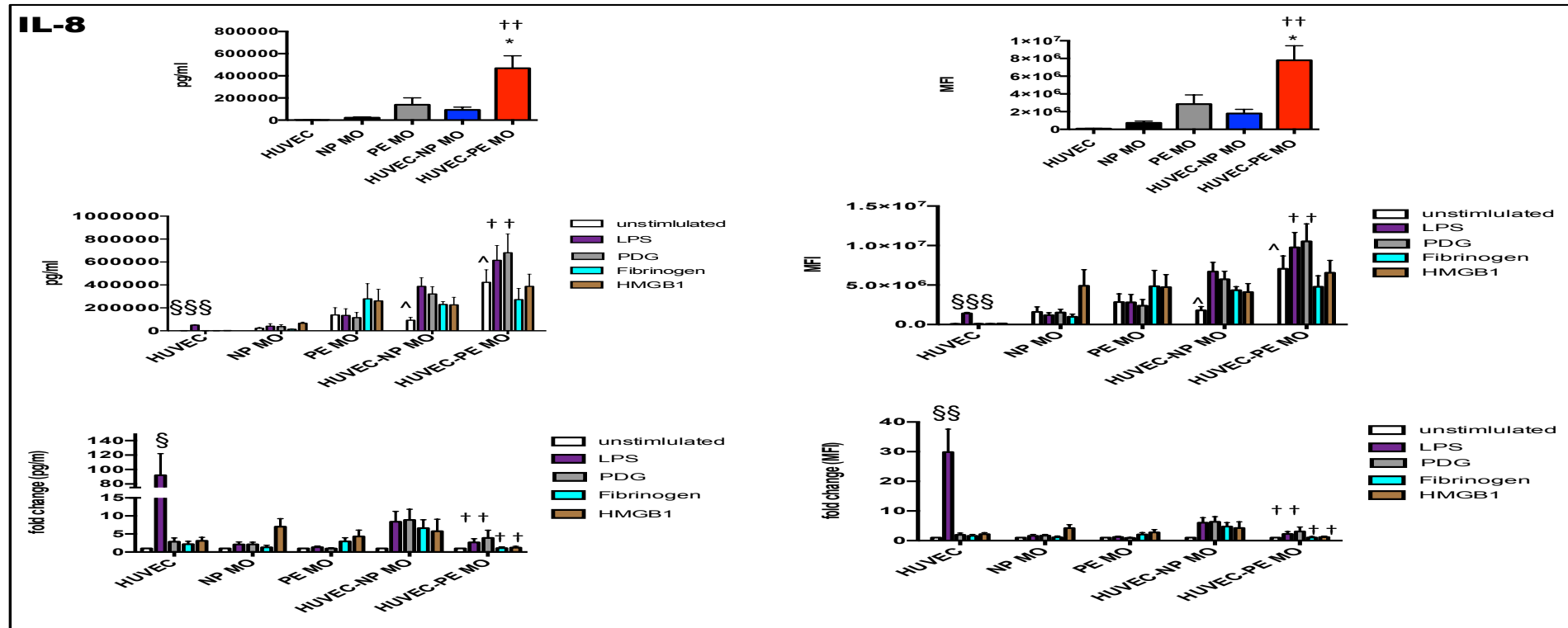


Figure 5.5 Monocytes (MO) from PE patients co-cultured with HUVECs exhibit an amplified inflammatory response of IL-8

Top panels: Basal levels of IL-8 production by HUVEC monoculture, NP/PE MO monocultures, HUVEC-NP MO co-culture or HUVEC-PE MO co-culture (*left panel*-pg/ml or *right panel*-MFI). **Middle panels:** Graphic representation of the response of HUVEC monoculture, NP/PE MO monocultures, and HUVEC-NP or PE MO co-cultures to LPS, PDG, fibrinogen and HMGB1 (*left panel*-pg/ml or *right panel*-MFI). **Bottom panels:** Graphic representation of the response of HUVEC monoculture, NP/PE MO monocultures and HUVEC-NP or PE MO co-cultures to LPS, PDG, fibrinogen and HMGB1 (*left panel*-fold change (pg/ml) or *right panel*-fold change (MFI)). Fold change was calculated by dividing pg/ml or MFI values over untreated control pg/ml or MFI values and illustrated as mean \pm SEM. Comparisons were made between NP/PE MO monocultures versus NP/PE co-cultures; NP versus PE mono- or co-cultures; and non-stimulated versus stimulated cultures. Statistical significance was determined by the Mann-Whitney U test to compare NP/PE monocultures versus NP/PE co-cultures and NP mono- or co-cultures versus PE mono- or co-cultures; and One Way ANOVA (Bonferroni multiple comparison test) to compare differences between the unstimulated cells to different stimulators (bacterial and endogenous ligands of TLRs) (n=7-9). *p < 0.05 NP/PE MO vs HUVEC-NP/PE MO, [†]p < 0.05, ^{††}p < 0.01 PE mono- or co-cultures as compared with NP mono- or co-cultures, [^]p < 0.05 non-stimulated control compared with stimulated cultures; and \$p < 0.05, \$\$p < 0.01, \$\$\$p < 0.001 LPS-treated HUVECs as compared to untreated HUVECs.

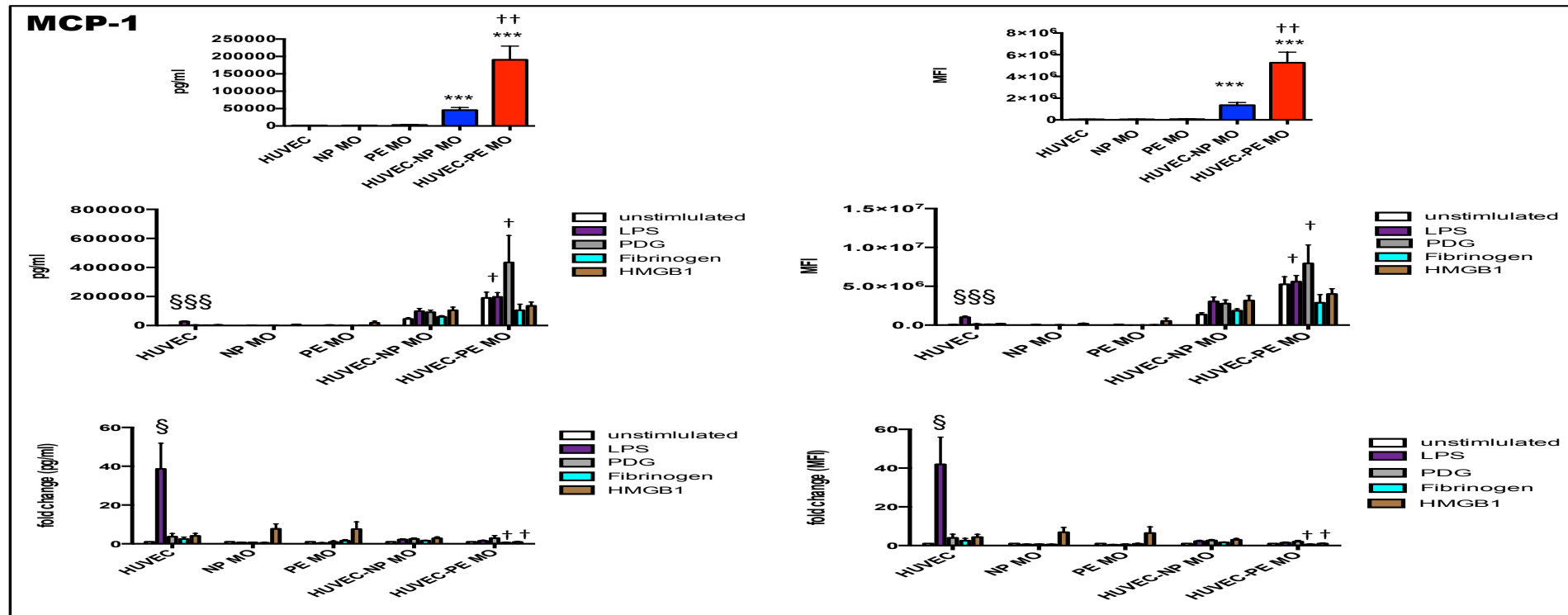


Figure 5.6 Monocytes (MO) from PE patients co-cultured with HUVECs exhibit an amplified inflammatory response of MCP-1

Top panels: Basal levels of MCP-1 production by HUVEC monoculture, NP/PE MO monocultures, HUVEC-NP MO co-culture or HUVEC-PE MO co-culture (*left panel*-pg/ml or *right panel*-MFI). **Middle panels:** Graphic representation of the response of HUVEC monoculture, NP/PE MO monocultures, and HUVEC-NP or PE MO co-cultures to LPS, PDG, fibrinogen and HMGB1 (*left panel*-pg/ml or *right panel*-MFI). **Bottom panels:** Graphic representation of the response of HUVEC monoculture, NP/PE MO monocultures and HUVEC-NP or PE MO co-cultures to LPS, PDG, fibrinogen and HMGB1 (*left panel*-fold change (pg/ml) or *right panel*-fold change (MFI)). Fold change was calculated by dividing pg/ml or MFI values over untreated control pg/ml or MFI values and illustrated as mean \pm SEM. Comparisons were made between NP/PE MO monocultures versus NP/ PE co-cultures; NP versus PE mono- or co-cultures; and non-stimulated versus stimulated cultures. Statistical significance was determined by the Mann-Whitney U test to compare NP/PE MO monocultures versus NP/ PE co-cultures and NP mono- or co-cultures versus PE mono- or co-cultures; and One Way ANOVA (Bonferroni multiple comparison test) to compare differences between the unstimulated cells to different stimulators (bacterial and endogenous ligands of TLRs) (n=7-9). ***p < 0.001 NP/PE MO vs HUVEC-NP/PE MO, †p < 0.05, ††p < 0.01 PE mono- or co- cultures as compared with NP mono- or co- cultures, ^p < 0.05 non-stimulated control compared with stimulated cultures; and §p < 0.05, §§p < 0.01, §§§p < 0.001 LPS-treated HUVECs as compared to untreated HUVECs.