**Annexin-V assay.**HUVEC (15x10⁴, 6-well plates) were grown overnight in complete medium before experimentation. After 24h of DMP1-treatment in complete medium without ECGS, adhesive and floating cells were pooled and incubated in presence of Annexin V-Fluos. Propidium iodide (PI) was added before flow cytometric analysis. For PARP western blot, protein extracts of IGROV-1 cells treated with cisplatine (7µM) (Sigma-Aldrich) were used.

**RNA interference.**HUVEC (15x10⁴, 6-well plates) were grown overnight in complete medium. Cells were transfected with 100nmol/L of small interfering RNA (siRNA) using calcium phosphate precipitation method and cultured for 48h or treated during the last 24h of transfection in complete medium without ECGS. Specific siRNAs directed against p27Kip1: #1, 5’-GGA-GCA-AUG-CGC-AGC-AAU-AUU-3’ and #2, 5’-CGA-CGA-UUC-UUC-UAC-UCA-AUU-3’ were purchased from Eurogentec. Non-targeting siRNA (EGT) (Eurogentec) was used as control.

**Flow cytometry.**HUVEC (15x10⁴, 6-well plates) were grown overnight in complete medium. After 24h of DMP1-treatment in complete medium without ECGS, cells were incubated with the mentioned antibodies. Cells were analyzed by flow cytometry using a FACSCantoII cytometer and FACSDiva™ analysis software (BD Biosciences).
Figure S1. DMP1 does not induce apoptosis of HUVEC. (A) Annexin-V/Propidium iodide (PI) assay of HUVEC treated with DMP1 (50 nmol/L) during 24 hours. One replicate out of 3 from a representative experiment (n=3) is shown. (B) Cells were treated with increasing concentrations of DMP1 during the indicated time intervals. Lysates from both floating and adherent HUVEC were immunoblotted with an antibody to PARP. Lysates from IGROV-1 cells, treated with cisplatin to induce apoptosis (CT+), showed the expected apoptotic fragment of 89 kDa corresponding to PARP cleavage. This fragment is not observed in DMP1-treated HUVEC lysates. The experiment was repeated 2 times.
Figure S2. Role of p27\(^{\text{Kip1}}\) in DMP1-mediated cell cycle arrest. Proliferation was assessed using HUVEC transfected during 48 hours with two siRNAs targeting p27\(^{\text{Kip1}}\) (siRNA p27#1 and siRNA p27#2) or with no siRNA and siRNA EGT used as negative controls. During the last 24 hours of transfection, cells were treated with DMP1. Error bars represent the mean ± SD of 3 replicates of a representative experiment (n=2). *, \(p \leq 0.01\) versus control. n.s. indicates not significant.
Figure S3. DMP1 modulates VE-cadherin expression in HUVEC but does not modulate ZO-1 and PECAM-1. VE-cadherin, ZO-1 and PECAM-1 flow cytometry analysis on DMP1-treated cells (50 nmol/L) during 24 hours.
Figure S4. DMP1 does not counteract bFGF-induced angiogenesis. (A) Proliferation was assessed in sparse and confluent cells treated with DMP1 during 48 hours. During the last 24 hours of DMP1 treatment, cells were treated with bFGF 10 ng/ml. Error bars represent the mean ± SD of 3 replicates of a representative experiment (n=2). **, p ≤ 0.001 versus control. n.s. indicates not significant. (B) Capillary tube-like assay of HUVEC treated with DMP1 (50 nmol/L) during 24 hours and then cultured on Matrigel and treated with bFGF 10 ng/ml. Phase contrast microscopy photomicrographs were taken after 4 hours and representative fields from one replicate out of 2 from one experiment is shown (n=2). Scale bar = 400μm.