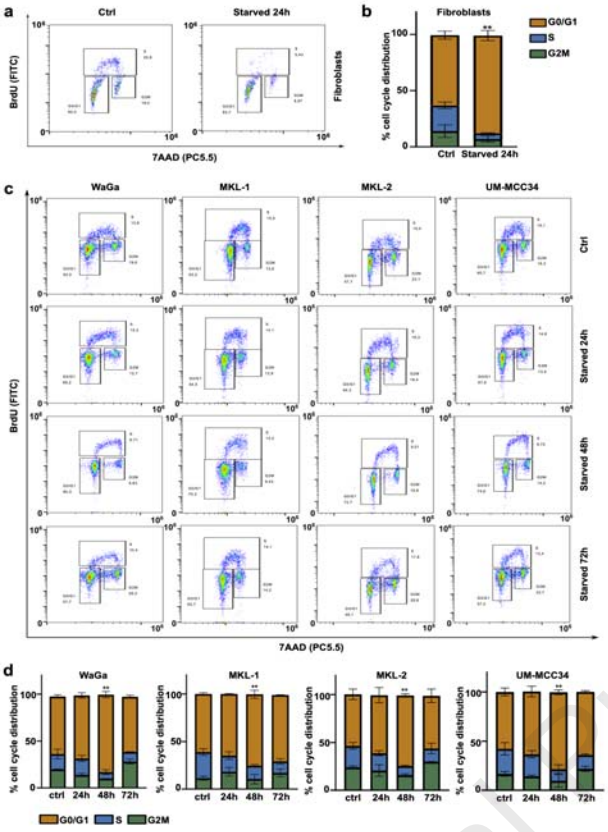
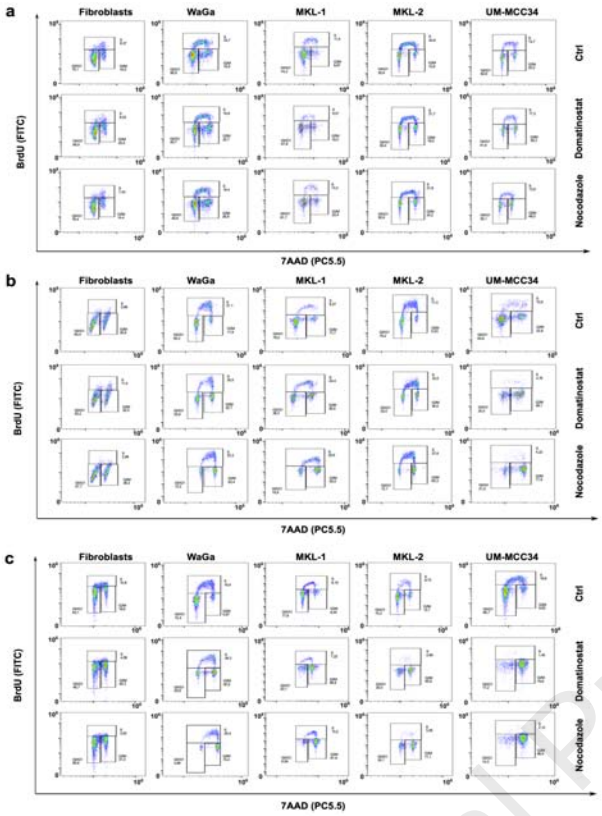
Supplementary Table 1: List of primers Gene

Gene	Forward primer	Reverse primer
TAP1	TCAGGGCTTTCGTACAGGAG	TCCGGAAACCGTGTGTACTT
TAP2	ACTGCATCCTGGATCTCCC	TCGACTCACCCTCCTTTCTC
LMP2	TCAAACACTCGGTTCACCAC	GGAGAAGTCCACACCGGG
LMP7	CATGGGCCATCTCAATCTG	TCTCCAGAGCTCGCTTTACC
RPLP0	CCATCAGCACCACAGCCTTA	GGCGACCTGGAAGTCCAACT

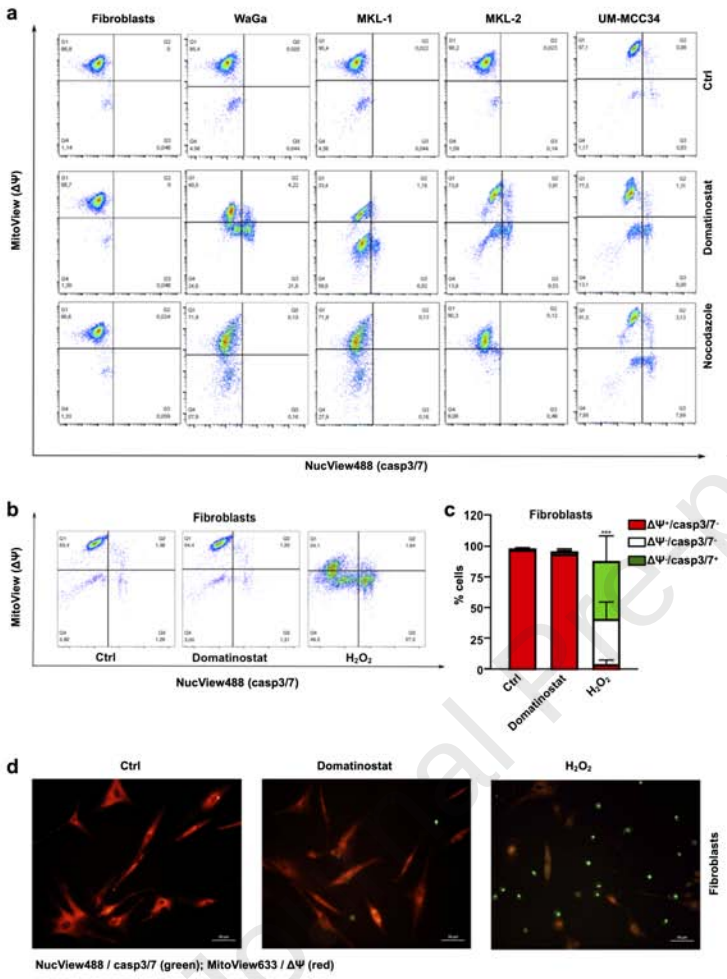
Supplementry Figure S1



Supplementary Figure S2



Supplementary Figure S3



SUPPLEMENTARY FIGURE LEGENDS

Supplementary Figure S1: Cell cycle synchronization in MCC cells and primary fibroblasts.

After culture of MCC cell lines (WaGa, MKL-1, MKL-2, UM-MCC34) or primary fibroblasts for 24, 48 and 72 hours without serum before the incorporation of BrdU was measured by flow cytometry. **(a)** In fibroblasts cell cycle arrest at G0/G1 phase is achieved after 24hrs of serum starvation as demonstrated by plotting BrdU vs 7AAD; **(b)** quantification is depicted as mean + / − SD as a box plot (P values: **, $P < 0.01$). **(c, d)** In the MCC cell lines the most prominent G0/G1 arrest is observed after 48 hrs of serum starvation. (P values: **, $P < 0.01$; ***, $P < 0.001$; ****, $P < 0.0001$). Experiments were repeated twice.

Supplementary Figure S2: Domatinostat promotes G2M cell cycle arrest in MCC cells.

Cell cycle analysis by BrdU incorporation and 7-AAD staining of primary fibroblasts and MCC cells (WaGa, MKL-1, MKL-2, UM-MCC34) treated **(a)** 24, **(b)** 48, and **(c)** 72 hours with solvent control, domatinostat (2.5 µM) or nocodazole (100 nM).

Supplementary Figure S3: Domatinostat promotes apoptosis in MCC cells, but not in primary fibroblasts.

Apoptosis was analyzed with the NucView 488/MitoView 633 Apoptosis Assay Kit in which healthy cells with an intact mitochondrial membrane potential ($\Delta\Psi m+$) are stained with MitoView 633 in red, while late apoptotic cells (active caspase 3/7) are stained with NucView 488 in green. **(a)** Flow cytometric analysis of primary fibroblasts and MCC cell lines ((WaGa, MKL-1, MKL-2, UM-MCC34) treated with either solvent control, 2.5 µM domatinostat or 100 nM nocodazole for 24 hours demonstrates the pronounced induction of apoptosis in MCC cell lines by domatinostat, which is not observed in fibroblast. Primary fibroblasts, however, are susceptible to apoptosis induction by 24 hours presence of 200 nM H_2O_2. **(b, c)**

Visualization by flow cytometry and **(d)** fluorescence microscopy. Quantification of flow cytometry results is depicted as mean +/ − SD and presented as a box plot. (P values: **, P < 0.01; ***, P < 0.001; ****, P < 0.0001). Experiments were repeated at least twice.