Supplementary Methods:

5'-azacytadine treatment: LCLs or MCF7 cells were treated with 5'-azacytidine (Sigma Aldrich, St. Louis, MO) at 10 μM for 4 days. Cells were collected for total RNA extraction or nuclear and cytoplasmic lysates were isolated as described in 'Western Blotting.'

MEST promoter methylation status

The *MEST* promoter methylation assay was performed using the EpiTech Methyl PCR Assay (Qiagen). 10^7 cells were mock treated or irradiated with 10 Gy and DNA was collected after 2 hours. DNA was processed according the manufactures specifications and amplified using the SybrGreen qPCR assay and MEST primer (Qiagen).