

Article

MDA-9/Syntenin (SDCBP) Is a Critical Regulator of Chemoresistance, Survival and Stemness in Prostate Cancer Stem Cells

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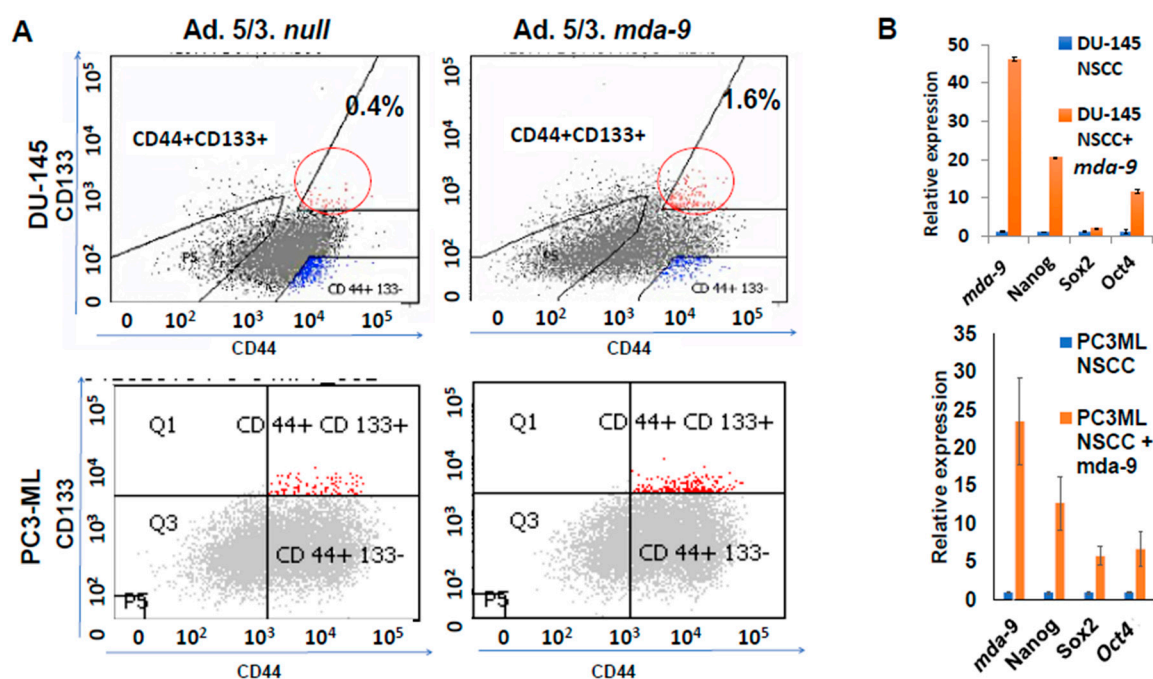


Figure S1. Effect of *mda-9* overexpression on PCSCs. Effect of overexpression of *mda-9* in prostate cancer stem cells and non-stem cancer cells on (A) stem populations as assayed by cell surface stemness markers and (B) stem regulatory molecule (NANOG, OCT4 and SOX2) expression.

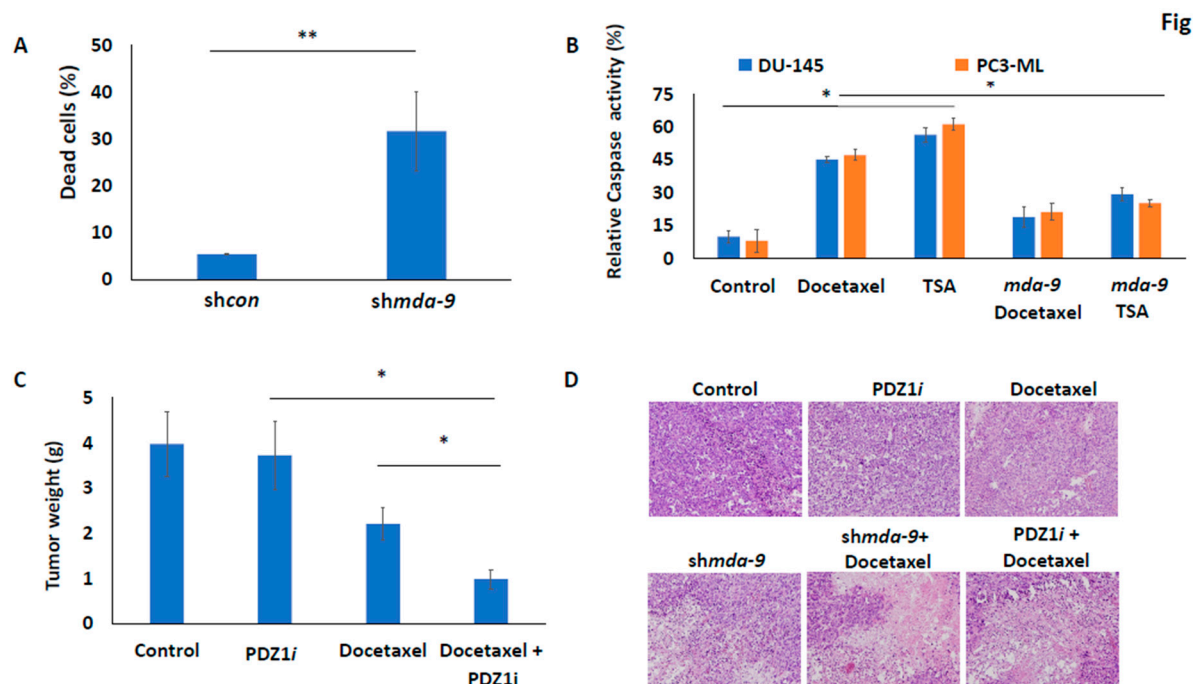


Figure S2. Effect of kd of *mda-9* on PCSCs. KD of *mda-9* enhances PCSC cell death (A). PCSC sensitivity to docetaxel and TSA treatment *in vitro* and effect of *mda-9* overexpression on PCSC sensitivity to chemotherapeutics. (B) Effect of PDZ1i (pharmacological inhibitor of MDA-9) on docetaxel sensitivity of tumors measured by tumor weight (C) and analyzed by histopathology (D). Bars represent SEM. * $P < 0.05$, using student t-test and ANOVA.

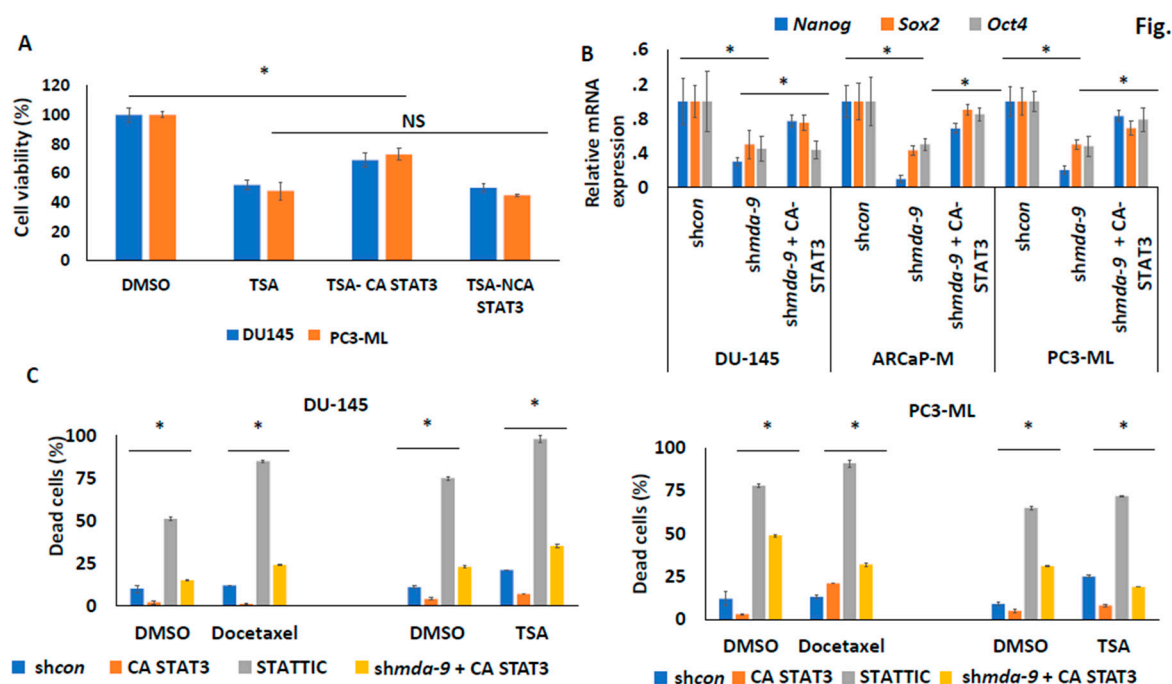


Figure S3. MDA-9-mediated STAT3 regulation, and its downstream effects in PCSCs. (A) STAT3 signaling through MDA-9 regulates chemosensitivity to the HDAC inhibitor TSA. (B) STAT3 activation by MDA-9 regulates stem regulatory molecules including OCT4, SOX2 and NANOG. (C) Image analysis data showing the role of STAT3 in MDA-9-based chemoresistance to Docetaxel and TSA in DU-145 and PC3-ML PCSCs. Bars represent SEM. * $P < 0.05$, using student t-test and ANOVA. NS depicts results that are not statistically significant.

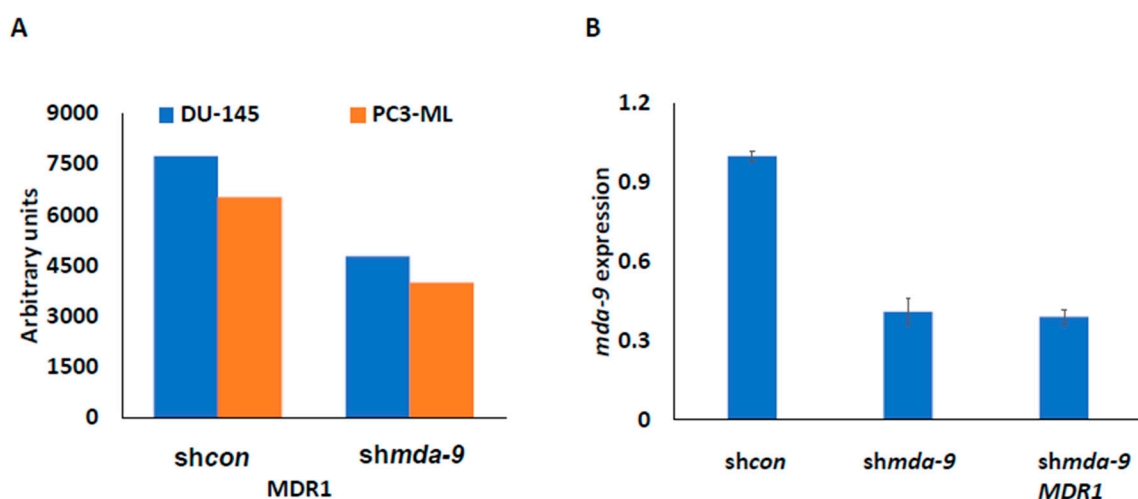


Figure S4. (A) Image J analysis of the Western blots shown in Figure 5C to quantify MDR1 expression. (B) Expression of *mda-9* in shcontrol, *mda-9* kd and *mda-9* kd PCSCs overexpressing MDR1.

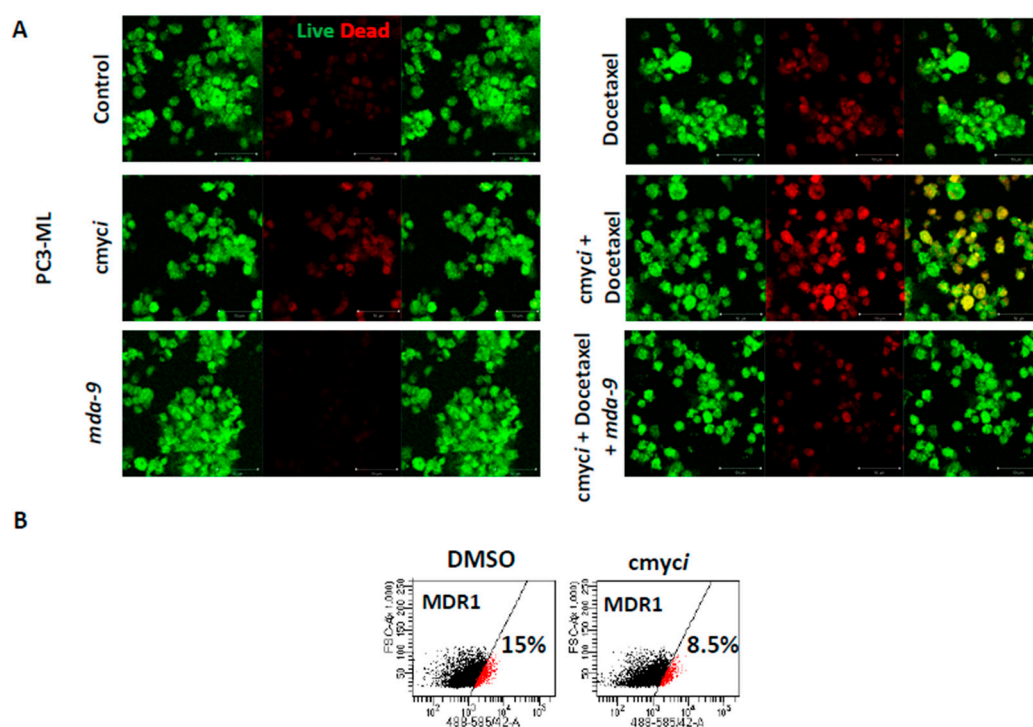


Figure S5. MDA-9 regulates chemoresistance in PCSCs through the *cmyc*/MDR1 axis. (A) Live/Dead analysis of PCSC sensitivity to Docetaxel after *cmyci*, Docetaxel, *mda-9* overexpression treatment alone and in combination. (B) Effect of *cmyc* inhibition on MDR1 expression.

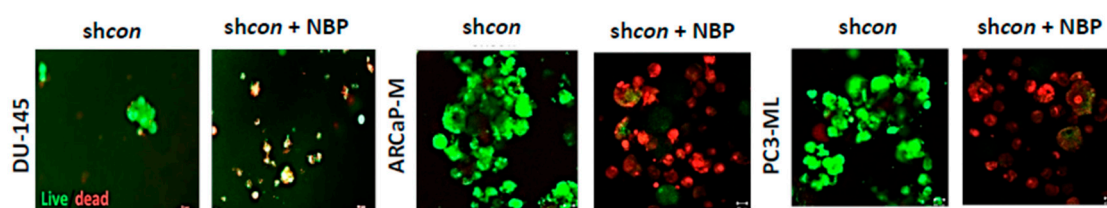


Figure S6. *mda-9* regulates PCSC survival through the NOTCH1 pathway. Peptide blocking studies to elucidate the effect of Notch1 blocking peptide (NBP) on PCSC viability; live cells are green, dead cells are red.