Table S11. Function and aberration of differentially methylated genes between Cribriform and noncribriform

Gene	Gene name	Function	Dysregulation	Effect	Reference
NR1I2 (PXR)	Nuclear Receptor Subfamily 1 Group I Member 2	Regulating drug metabolism enzymes (cytochrome P450)	Downregulation	Sensitization to Chemotherapy	(1)
EVX1	Even-Skipped Homeobox 1	Repressor of gene transcription	Methylation	BCR in moderate risk Pca PSA relapse.	(2)
EPHX3 (ABHD9)	Epoxide Hydrolase 3	epoxy hydrolase activity	Methylation	Associated with high grade & recurrence	(3)
CXCL14	Chemokine (C-X-C Motif) Ligand 14	modulate antitumor immune responses	Downregulation	Downregulated in PCa	(4)
IRAK3	Interleukin 1 Receptor Associated Kinase 3	immune defense against tumor growth	Methylation	Progression into CRPC	(5)
ICAM5	Intercellular Adhesion Molecule 5	cell adhesion and signaling invasion and	Downregulation	Tumor progression	(6)
CRMP1	Collapsin Response Mediator Protein 1	metastasis suppressor function in prostate cancer	Downregulation	Associated with high grade Pca	(7)
СМТМЗ	CKLF-Like MARVEL Transmembrane Domain Containing 3	Inhibits tumor growth and proliferation	Downregulation	Tumor proliferation Associated with higher GS	(8) & (9)
TIMP2/3	Tissue Inhibitor of Metalloproteinases 2/3	Inhibition of metalloproteinases	Downregulation	Enhances ECM degradation & invasion	(10)
SLIT2	Slit Guidance Ligand 2	Inhibition of cell migration towards chemotactic factors	Methylated & downregulated	Proliferation & invasion	(11)

Abbreviations: PCa, prostate cancer; GS, Gleason score; BCR, Biochemical recurrence; CRPC, Castration Resistant Prostate Cancer; ECM, Extracellular matrix

## References

- 1. Chen Y, Tang Y, Wang MT, Zeng S, Nie D. Human pregnane X receptor and resistance to chemotherapy in prostate cancer. Cancer research **2007**;67:10361-7
- 2. Truong M, Yang B, Wagner J, Kobayashi Y, Rajamanickam V, Brooks J, *et al.* Even-skipped homeobox 1 is frequently hypermethylated in prostate cancer and predicts PSA recurrence. British journal of cancer **2012**;107:100-7
- 3. Stott-Miller M, Zhao S, Wright JL, Kolb S, Bibikova M, Klotzle B, *et al.* Validation study of genes with hypermethylated promoter regions associated with prostate cancer recurrence. Cancer Epidemiol Biomarkers Prev **2014**;23:1331-9
- 4. Song EY, Shurin MR, Tourkova IL, Gutkin DW, Shurin GV. Epigenetic mechanisms of promigratory chemokine CXCL14 regulation in human prostate cancer cells. Cancer research **2010**;70:4394-401
- 5. Angulo JC, Andres G, Ashour N, Sanchez-Chapado M, Lopez JI, Ropero S. Development of Castration Resistant Prostate Cancer can be Predicted by a DNA Hypermethylation Profile. The Journal of urology **2016**;195:619-26
- 6. Kammerer S, Roth RB, Reneland R, Marnellos G, Hoyal CR, Markward NJ, *et al.* Large-scale association study identifies ICAM gene region as breast and prostate cancer susceptibility locus. Cancer research **2004**;64:8906-10
- 7. Cai G, Wu D, Wang Z, Xu Z, Wong KB, Ng CF, *et al.* Collapsin response mediator protein-1 (CRMP1) acts as an invasion and metastasis suppressor of prostate cancer via its suppression of epithelial-mesenchymal transition and remodeling of actin cytoskeleton organization. Oncogene **2017**;36:546-58
- 8. Di Meo S, Airoldi I, Sorrentino C, Zorzoli A, Esposito S, Di Carlo E. Interleukin-30 expression in prostate cancer and its draining lymph nodes correlates with advanced grade and stage. Clinical cancer research: an official journal of the American Association for Cancer Research **2014**;20:585-94
- 9. Hu F, Yuan W, Wang X, Sheng Z, Yuan Y, Qin C, *et al.* CMTM3 is reduced in prostate cancer and inhibits migration, invasion and growth of LNCaP cells. Clinical & translational oncology: official publication of the Federation of Spanish Oncology Societies and of the National Cancer Institute of Mexico **2015**;17:632-9
- 10. Shin YJ, Kim JH. The role of EZH2 in the regulation of the activity of matrix metalloproteinases in prostate cancer cells. PloS one **2012**;7:e30393
- 11. Yu J, Cao Q, Yu J, Wu L, Dallol A, Li J, *et al.* The neuronal repellent SLIT2 is a target for repression by EZH2 in prostate cancer. Oncogene **2010**:29:5370-80