**Supplemental Methods**

**Tumor tissue and assessment of ERG Status**

For those Health Professionals Follow-up Study participants diagnosed with prostate cancer, we contacted hospital pathology departments to retrieve archival formalin-fixed paraffin-embedded prostate tumor tissue obtained through either radical prostatectomy (RP) or transurethral resection of the prostate (TURP). The study pathologists (MF, SF, FG) reviewed hematoxylin-and-eosin slides to provide uniform Gleason grade and other histopathologic features and to select areas of tumor for construction of tumor tissue microarrays (TMA).1 TMAs were constructed by taking at least three 0.6-mm cores of tumor tissue from the primary tumor nodule or the nodule with the highest Gleason grade.

Presence or absence of the *TMPRSS2:ERG* fusion was assessed using a validated immunohistochemistry assay for ERG protein expression, as previously described.2 This assay has high concordance with *TMPRSS2:ERG* assessed by FISH3,4 and qPCR.5 ERG antisera (Clone ID: EPR3864, Epitomics, Inc.) were applied at 1:100 to five-micrometer TMA sections. Visualization of ERG was achieved using the DAB substrate kit (Vector Laboratories, Inc.). Assessment of ERG was restricted to cases in which a positive internal control, defined as presence of ERG staining in the vasculature endothelium, was observed. A case was classified as ERG positive if the case had positive ERG staining within prostate cancer epithelial cells on at least one core. Of ERG-positive cases, 85% were concordant for ERG staining on all cores.

**References**

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