

## Patient Education Flyer: Biomarkers for Prostate Cancer

### Understanding Biomarkers for Prostate Cancer

Prostate cancer is one of the most common cancers among men. Biomarkers are substances found in blood, urine, or tissue that can help detect, diagnose, and monitor prostate cancer. Understanding these biomarkers can help patients make informed decisions about screening and treatment.

#### Key Prostate Cancer Biomarkers:

1. **Prostate-Specific Antigen (PSA)**
  - A protein produced by the prostate gland.
  - Elevated PSA levels may indicate prostate cancer, but they can also be caused by benign conditions like prostatitis or an enlarged prostate.
2. **Free PSA (fPSA) & Total PSA Ratio**
  - Helps differentiate between benign and malignant conditions.
  - A lower free PSA percentage may indicate a higher risk of prostate cancer.
3. **PCA3 (Prostate Cancer Antigen 3) Test**
  - A urine test that detects PCA3, a gene associated with prostate cancer.
  - High PCA3 levels suggest a greater likelihood of cancer.
4. **TMPRSS2-ERG Gene Fusion**
  - A genetic abnormality found in some prostate cancer cases.
  - Helps in assessing the aggressiveness of the cancer.
5. **4Kscore Test**
  - Measures four different prostate-related proteins in the blood.
  - Helps predict the risk of high-grade prostate cancer.
6. **ConfirmMDx**
  - A tissue-based test that identifies molecular changes linked to cancer.

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- Useful for patients with previous negative biopsies but ongoing suspicion of cancer.

**7. AR-V7 (Androgen Receptor Variant 7)**

- Found in circulating tumor cells.
- Helps determine resistance to certain prostate cancer treatments.

**Why Are Biomarkers Important?**

- Aid in **early detection** of prostate cancer.
- Help differentiate between **aggressive and slow-growing cancers**.
- Guide treatment decisions and monitor response to therapy.

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