OncoDNA
THE CANCER THERANOSTIC COMPANY

INFORMATIVE CARD - JULY 2017

Prostate Cancer

Test usually made in routine

- PSA

How to treat metastatic Prostate Cancer?

- Conventional chemotherapies (docetaxel and cabazitaxel)
- Androgen deprivation therapy (LHRH agonists and LHRH antagonist)

HOW CAN ONCODNA BE USEFUL?

OncoSTRAT&GO™

• For Approved Treatments

DNA / RNA

ARV7 - *extended mutations testing*
To predict resistance to anti-androgen therapies (enzalutamide and abiraterone).

TMPRSS2-ERG - *translocation testing*
To predict (1) poor prognosis to docetaxel and cabazitaxel and (2) development of androgen-independence prostate cancer through disruption of androgen receptor signalling, especially in castrate-resistant prostate cancer.

cMET - *copy number testing*
To predict response to crizotinib* and cabozantinib*.

BRCA1/2 - *extended mutations testing*
To predict response to PARP inhibitors (olaparib*, rucaparib* and niraparib**).

TP53 and RB1 - *extended mutations leading to loss of function*
To predict resistance to anti-androgen therapies (enzalutamide and abiraterone).

SMO - *extended mutations testing*
To predict good prognosis to anti-SMO treatments (sonidegib and vismodegib)*.

PROTEINS

TOP2A - *over-expression*
To predict good prognosis for the overall survival but also good prognosis to TOP2A inhibitor (liposomal doxorubicin).

TUBB3 - *over-expression*
To predict poor prognosis and resistance to taxane-based therapies (docetaxel and cabazitaxel).

GCR (glucocorticoid receptor) - *over-expression*
To predict resistance to anti-androgen therapies (enzalutamide and abiraterone).

PARP - *over-expression*
To predict (1) resistance to anti-androgen therapies (enzalutamide and abiraterone) and (2) response to PARP inhibitors (olaparib)*.

PROTEINS + DNA

Tumor Burden - *testing* + **PD-L1 & CD8** - *over-expression* + **MSI** - *testing* + **POLE, POLD1** - *mutations & copy number testing*
To predict good prognosis to anti-PDL1 / anti-PD1 treatments (pembrolizumab and atezolizumab*).

CDK4 / CDK6 / RB1 / CDKN2A - *extended mutations & copy number testing* + **pRB1** - *expression*
To predict good prognosis to anti-CDK4/6 treatments (palbociclib and ribociclib)*.

MTOR / TSC1 / TSC2 / PTEN / PIK3CA - *extended mutations & copy number testing* + **p4EBP1 / PTEN** - *expression*
To predict good prognosis to mTOR inhibitor (everolimus)* or dual PIK3CA/mTOR inhibitor (LY3023414)**.

** : Drugs FDA approved for other indications.* *** : Drugs in development*

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• For Drugs in Development

DNA / RNA

AKT1 *- extended mutations testing*
To predict good prognosis to anti-AKT treatment (AZD5363).

PIK3CB *- extended mutations testing*
To predict good prognosis to PIK3CB inhibitors (AZD8186 and GSK2636771).

CSF1R *- extended mutations testing*
To predict good prognosis to anti-CSF1R treatments (LY3022855).

NTRK1/2/3 *- translocation testing*
To predict good prognosis to anti-NTRKx treatments (entrectinib and LOXO-101).

PROTEINS

TERT *- over expression*
To predict good prognosis to TERT inhibitors (GX301).

** : Drugs FDA approved for other indications.*

WHY AND WHEN A PERSONALIZED LIQUID BIOPSY COULD BE MADE ?

OncoTRACE

• Neoadjuvant Settings

The evaluation of the response to anti-tumor therapies for solid tumors is based on the monitoring of the size of lesions and must be accurately measured in at least one dimension (longest in plane diameter is to be recorded) (RECIST criteria).

LIMITATIONS OF THIS APPROACH:

- ✗ Early evaluation after treatment start is difficult because tumor shrinkage can only be detected after several therapeutic cycles.
- ✗ Response is non-evaluable when disease is not measurable (liquid effusion, follow-up post complete tumor resection...)

OUR SUGGESTED ALTERNATIVE:

ctDNA can be used as a non-invasive tool to monitor the disease evolution during treatment. But which mutations must be followed and how many ?

Our solutions are able to:

- ✓ Predict a relapse sooner than conventional imaging technologies
- ✓ Detect resistance mutations to anticipate therapy changes
- ✓ Predict sensitivity to new therapies

• Adjuvant / Systemic settings

In adjuvant systemic for progressive castration-naive disease after castration treatment.

Every three months.

In adjuvant systemic when castration-recurrent or metastatic settings if the patient can still bear some treatment.

2 weeks before the scheduled visit.

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