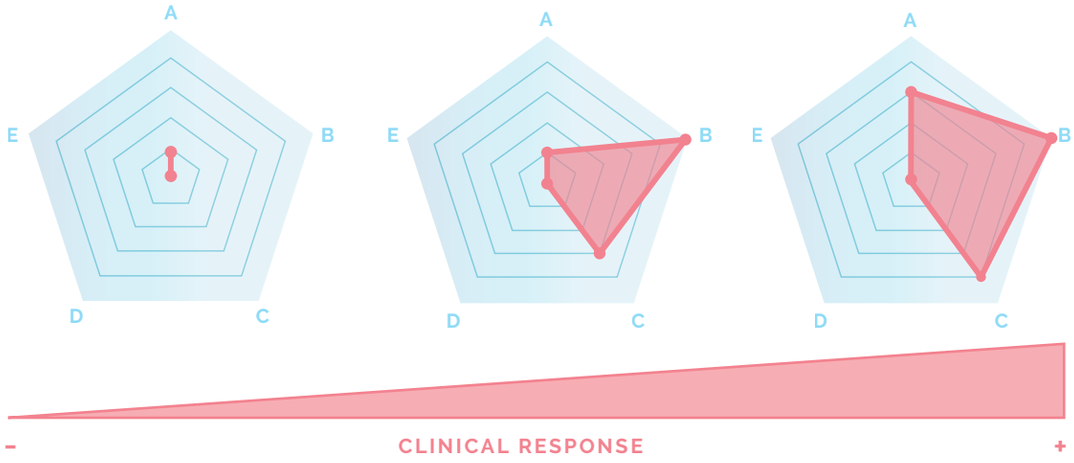
OncoDNA
THE CANCER THERANOSTIC COMPANY

ONCODNA DOCUMENT

Choose the best therapy for Cancer of Unknown Primary (CUP)

PERSONALIZED IMMUNOGRAM



A *PD-L1 (%) (FDA)*

An approved biomarker in NSCLC. But in other cancers, the predictive value of PD-L1 is still under research, as a definite role has been limited by the expression assays and the cutoffs used in the different studies. And although studies support a predictive role of PD-L1 expression, around 15% of patients negative for PD-L1 expression have achieved response.

APPROVED BIOMARKER IN OTHER CANCERS, BUT SOLO NOT ENOUGH, ITS EXPRESSION LEVEL VERY DYNAMIC AND SENSITIVE TO TUMOR HETEROGENEITY

B *TMB (Tumor Mutational Burden; ASCO 2017) / 15% of TMB are MSI-*

Overall, TMB has been shown to be a predictive biomarker for immunotherapy. High, intermediate, and low TMB were defined as ≥20 mut/Mb, ≥6 and <20 mut/Mb, or <6 mut/Mb, respectively. It has been reported that a minimum of 1.1 Mb of coding genome can accurately assess this TMB compared with sequencing of the whole exome.

NOT ENOUGH SINCE TUMOR MIGHT CARRY SOME MUTATIONS OF RESISTANCE OR MIGHT NOT HAVE THE RIGHT ENVIRONMENT FOR A GOOD IMMUNE RESPONSE

C *CD8 T cell infiltrate (ASCO 2017)*

Studies have shown that increased numbers of tumour-infiltrating CD8+ T-lymphocytes are associated with better clinical outcome.

SOLO NOT ENOUGH SINCE LIKE THE EXPRESSION OF PD-L1, IT IS HIGHLY DYNAMIC AND SENSITIVE TO HETEROGENEITY

D *MSI high (FDA)*

For patients with metastatic solid tumours that have progressed following prior treatment and who have no satisfactory alternative treatment options.

APPROVED BUT RARE IN MOST CANCERS

E *Resistances (ASCO 2017)*

Mutations in JAK1, JAK2, POLE, STK11, PD-L1, higher number of CNVs, Met-ex14 have been associated with resistance to immunotherapy.

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IDENTIFYING TISSUE OF ORIGIN
ESMO GUIDELINES TO DECIPHER THE POSSIBLE PRIMARY SITE BY IHC

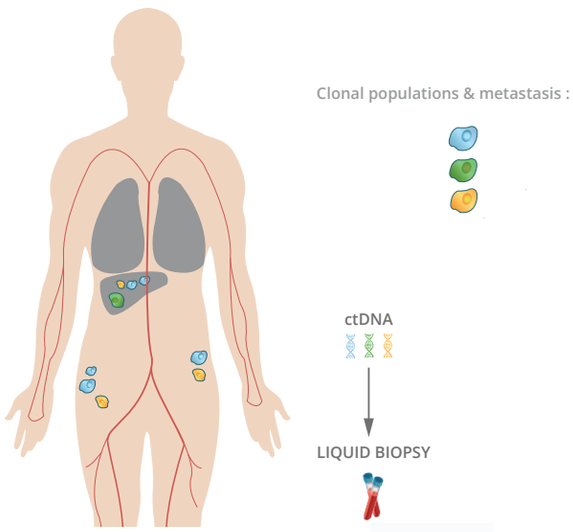
Testing of primary markers: CK7, CK20
Testing of additional markers: CEA, CDX-2, TTF-1, ER, PR, GCDFP-15, CK-19...

TARGETED THERAPY

	FDA APPROVED	OFF-LABEL (FDA APPROVED FOR OTHER)	IN DEVELOPMENT (ONGOING CLINICAL TRIALS)
EGFR mutations	This will depend of the probable origin of the CUP		
KRAS mutations			
NRAS mutations			
BRAF mutations			
cMET amplification			
HER2 amplification+ mutations			
MAPK mutations			
PIK3CA mutations			

BLOOD

Improve the assessment of cancer heterogeneity by combining Solid and Liquid Biopsy



KEY FACT

On June 23rd 2017, the FDA approved the first NGS companion diagnostic that screens for multiple drugs. This test is using the OncoMINE® Dx Target panel and the Ion Torrent technology. Since the beginning we have bet on Ion Torrent technology for our Onco solutions and our **OncoSTRAT&GO®** has been built based on the design of the OncoMINE® comprehensive panel that we improved by adding key regions or genes needed to increase treatment's options for the patients.

For more technical information, check our card on Unknown Primary Cancer

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