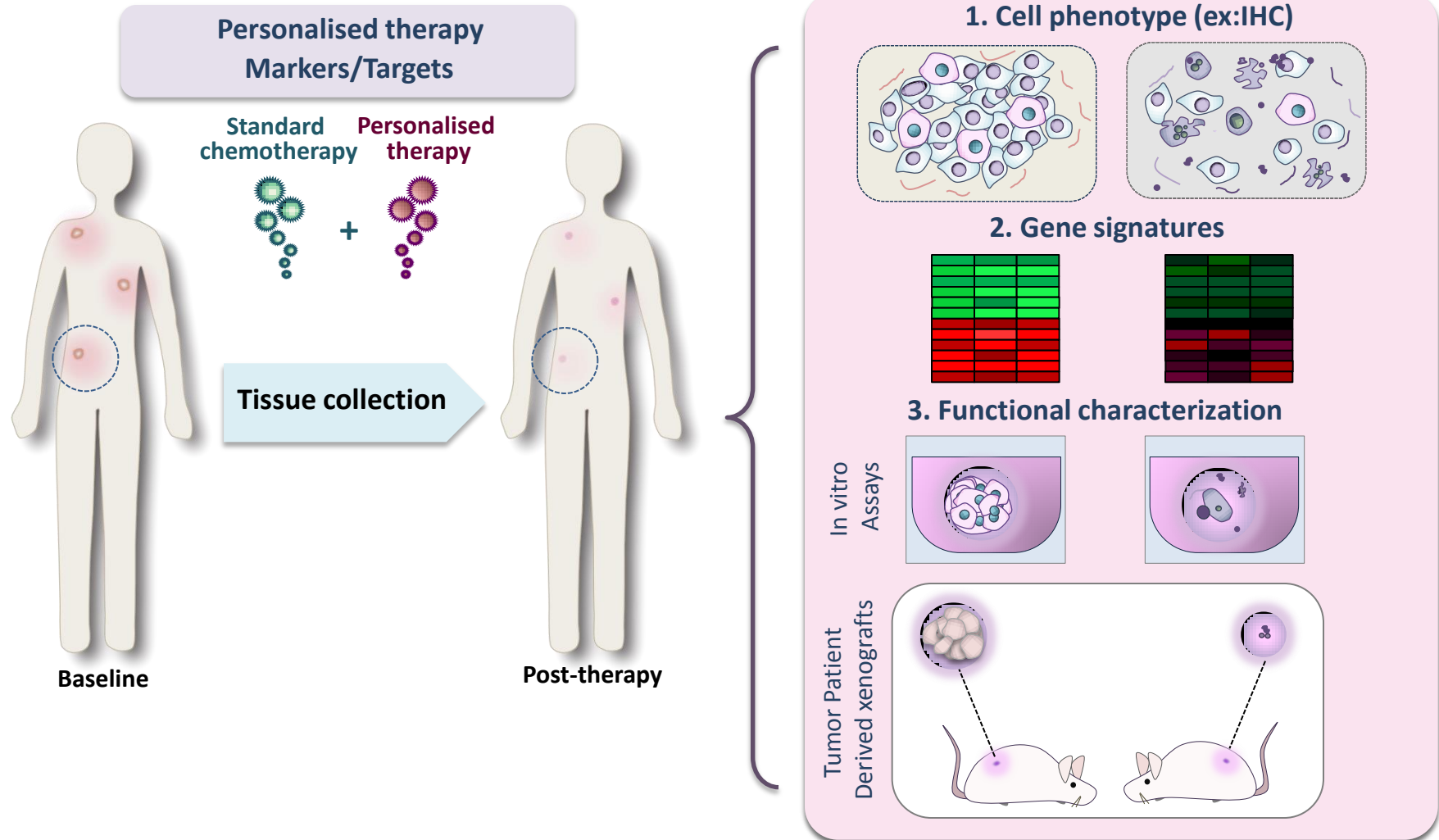


PERSONALISED MEDICINE IN HEAD AND NECK CANCER

ESMO2014 MADRID

Personalised therapy clinical development



(Modified from Domingo-Domenech J; Oncogene .October 2013)

Personalised medicine

Definition

**The use of data from genotype, proteins and phenotype
(level of gene expression, environment data and/or clinical information)
to diagnose, prevent or treat patients.**

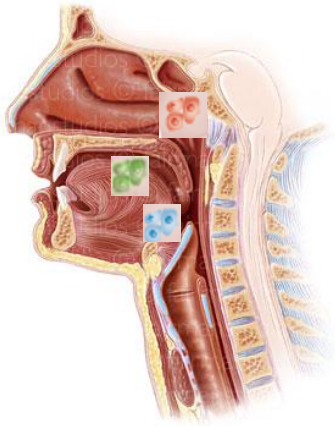
In oncology: Clinical application of knowledge about targeted therapy

Aims: Right treatment
 Right tumor
 Right patient (Side effects)
 Right time

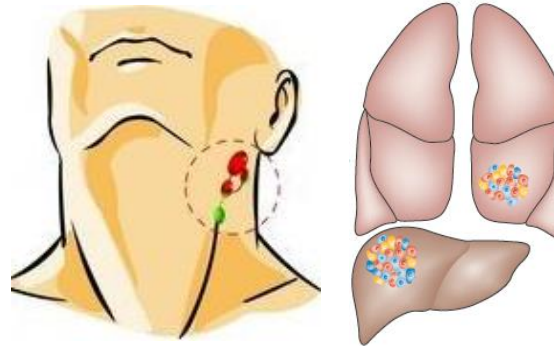
Personalised medicine or stratified medicine ?

Human cancers are heterogeneous

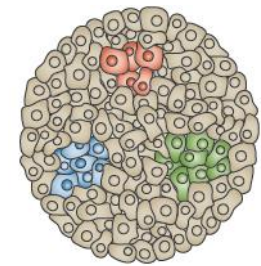
A intertumoral heterogeneity between patients and primary sites



B intratumoral heterogeneity between Primary and metastatic sites

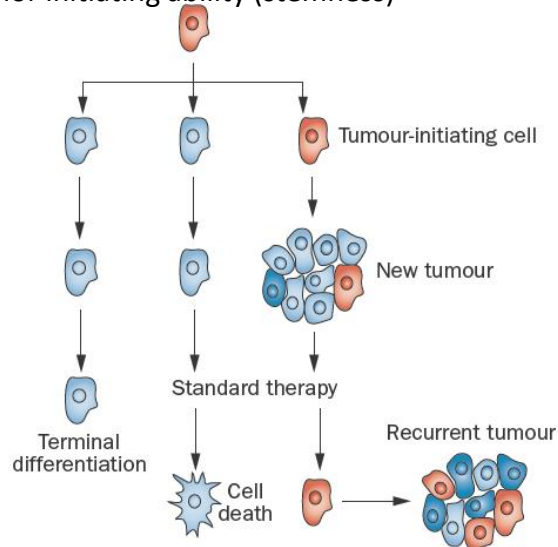


C Intratumoral spatial heterogeneity



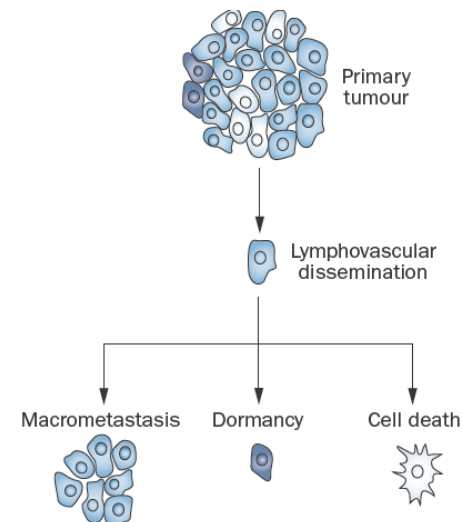
D Functional heterogeneity

Tumor initiating ability (stemness)

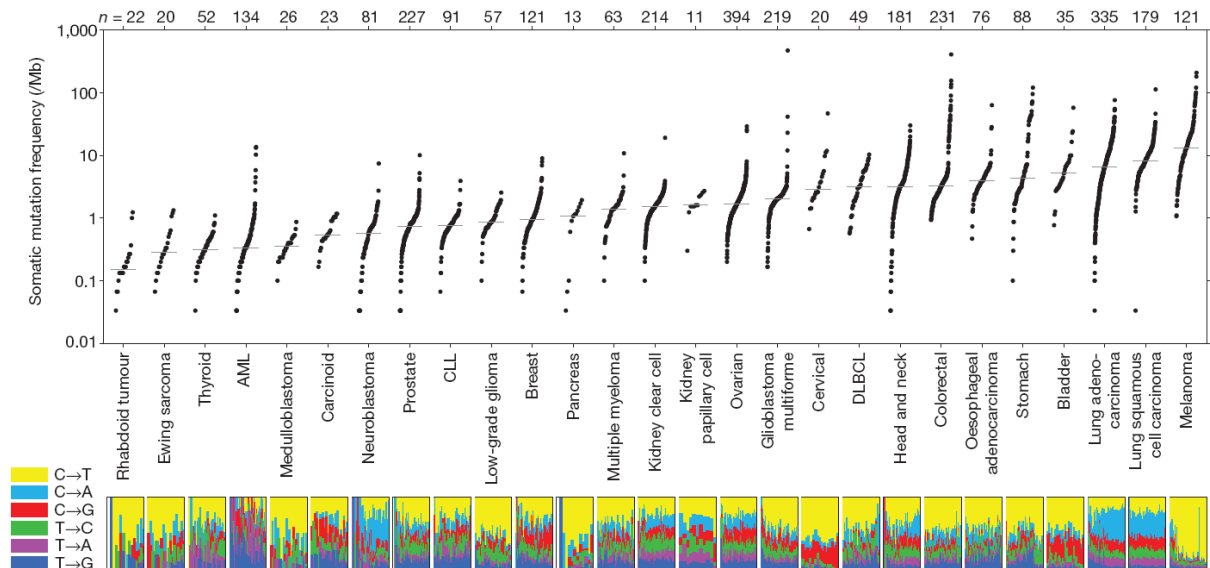


E Functional heterogeneity

Metastatic capacity



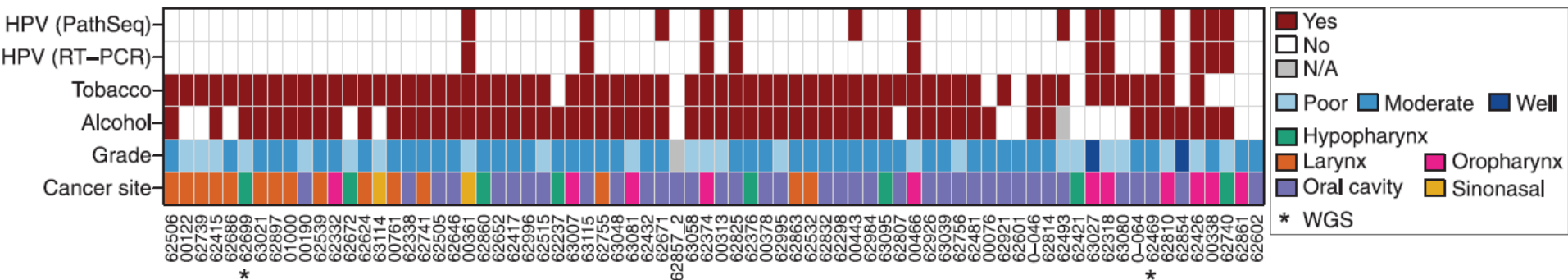
Human cancers are heterogeneous



Somatic mutations frequencies are different according tumor site

Lawrence MS. Nature 2013

Head & Neck cancers are heterogeneous



Mutation rates are different in HPV positive compared to tobacco/alcohol induced tumors.

Stransky N. Science 2011

Signaling Pathways Underlying the Oncogenic Phenotype in Head and Neck Cancer

