Activated oncogenes

Structural variations

Polymorphisms in chemoresistance associated genes

Inactivated tumor suppressors

Activated oncogenes

Somatic aberrations (SNPs, indels, CNVs, LOH, expression changes)

Affected cellular and cancer pathways

Polymorphisms in drug targets

Polymorphisms in drug targets

Finding disease targets

Somatic aberrations (SNPs, indels, CNVs, LOH, expression changes)

Predicting tumor response to specific drug treatments

Polymorphisms in drug metabolism genes

Normal cells
(adjacent tissue or blood cells)
Germline aberrations, familial risk factors

Metastatic cells
(non-adjacent tissue)
Genes driving metastasis, acquired resistance, clonal selection

Tumor cells

AFFECTED CELLULAR AND CANCER PATHWAYS