



Dipartimento Integrato Interistituzionale
DIPINT



Primo Workshop

Clinical Research and Innovation

Venerdì 4 luglio 2014 9,00 - 19,00

Aula Magna - Polo Fibonacci - Largo Pontecorvo 3, Pisa

Development of innovative approaches for the non-invasive monitoring of disease response and resistance to tyrosine-kinase inhibitors in liver and lung cancer

Romano Danesi

Department of Clinical and
Experimental Medicine

University of Pisa

Rodolfo Sacco

Department of
Gastroenterology

Pisa University Hospital



Liver perfusion CT for non invasive assessment of response to sorafenib therapy in patients with advanced HCC: preliminary findings

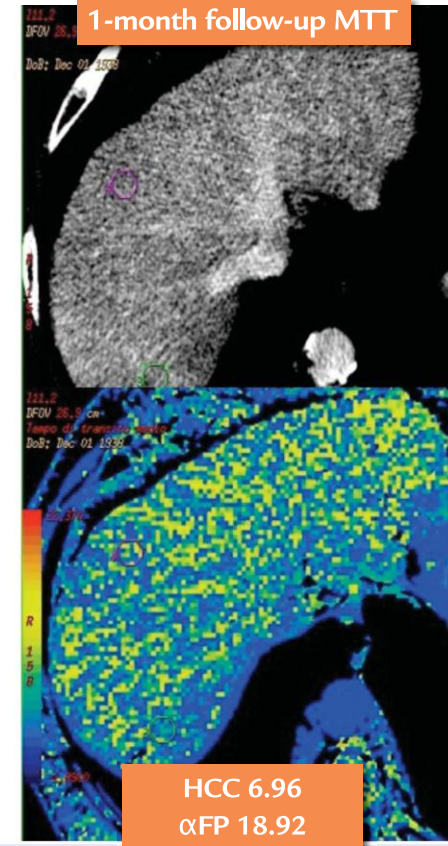
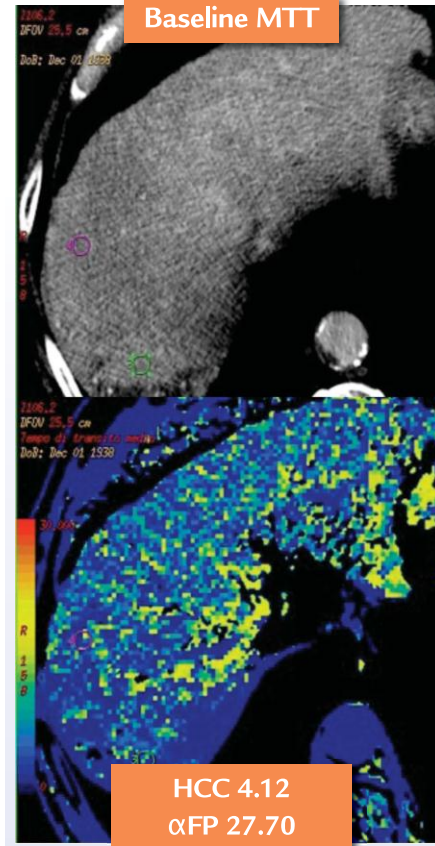
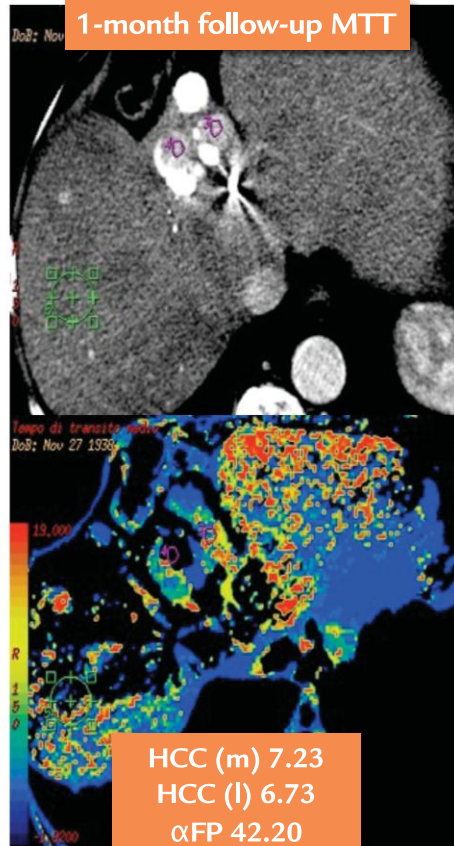
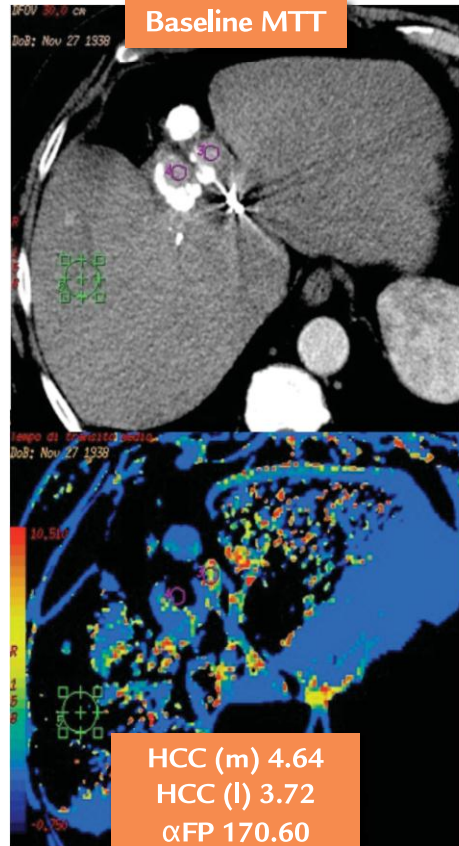
R.Sacco ¹ , L. Faggioni ² , I. Bargellini ² , B.Ginanni ² , A.Romano ¹ , M.Bertini ¹ , E.Neri ² , V.Mismas ¹ , A.Ricchiuti ¹ , O.Perrone ² , G.Federici ¹ , G.Parisi ¹ , E.Tumino ¹ , S.Metrangolo ¹ , G.Bresci ¹ , C.Bartolozzi ²

¹ *Department of Gastroenterology, Pisa University Hospital, Pisa, Italy*

² *Department of Radiology, Pisa University Hospital, Pisa, Italy*

Dig Liver Dis. 2013 Sep;45(9):776-81.

Report of 2 cases





IDENTIFICATION OF RESPONDERS TO SORAFENIB IN HEPATOCELLULAR CARCINOMA: IS TUMOR VOLUME MEASUREMENT THE WAY FORWARD?

Rodolfo Sacco², Alessandra Scionti¹, Valeria Mismas², Gianluca Masi³, Caterina Vivaldi³, Carlo Bartolozzi¹, Irene Bargellini¹

¹ Department of Diagnostic and Interventional Radiology, Pisa, Italy

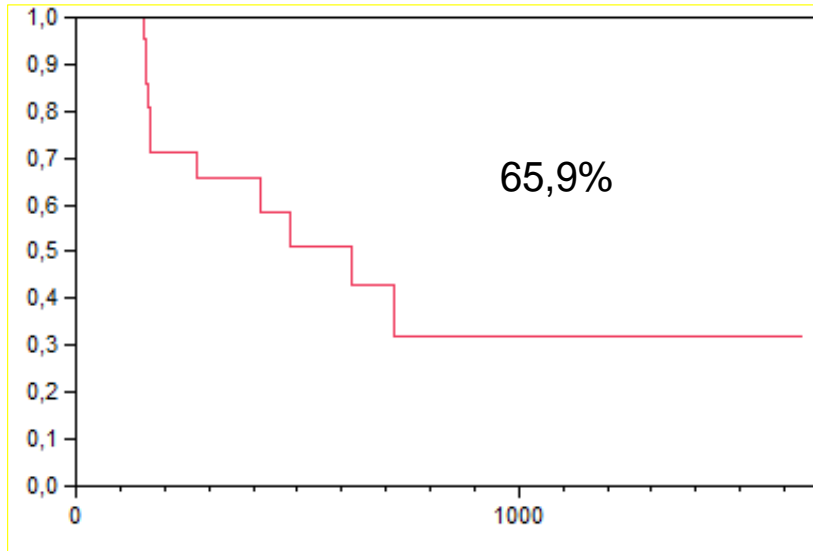
² Department of Gastroenterology, Pisa, Italy

³ Department of Oncology, Pisa, Italy

Oncology. 2014;86(4):191-8.

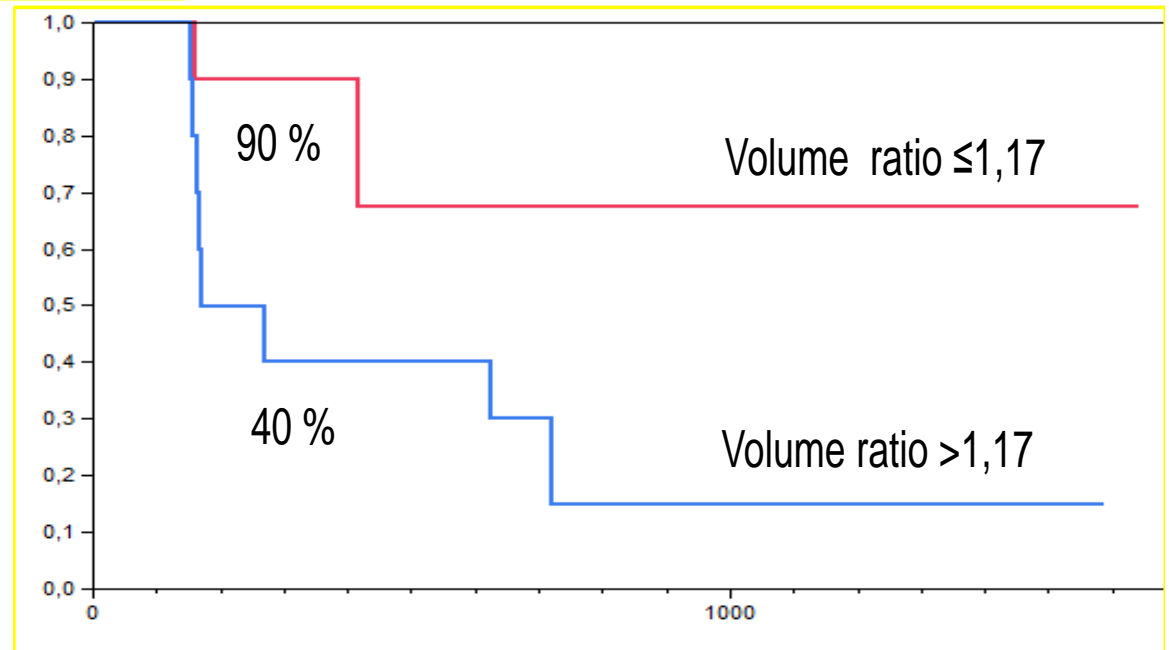


Survival of patients based on tumor volume ratio



One-year cumulative survival rate

Overall survival



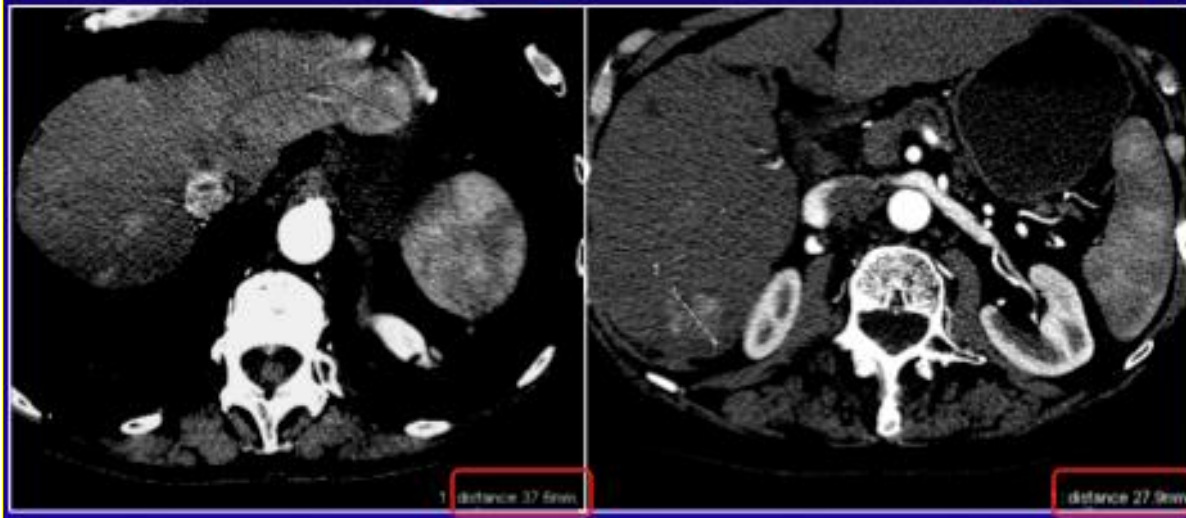
RECIST / mRECIST /EASL: Stable Disease; V ratio = 2,21; survival 5,5 months; progressive disease

Pre



$V = 23\text{cc}_3$

2 months



$V = 51\text{cc}_3$



Marzia Del Re¹,
Enrico Vasile²,
Alfredo Falcone²,
Romano Danesi*¹ and
Iacopo Petrini²

¹Department of Clinical and
Experimental Medicine, Clinical
Pharmacology Unit, Pisa University,
Pisa, Italy

²Department of Translational Research
and New Technologies in Medicine and
Surgery, Medical Oncology Unit,
Pisa University, Pisa, Italy

Author for correspondence:

Tel.: +39 050 992 632

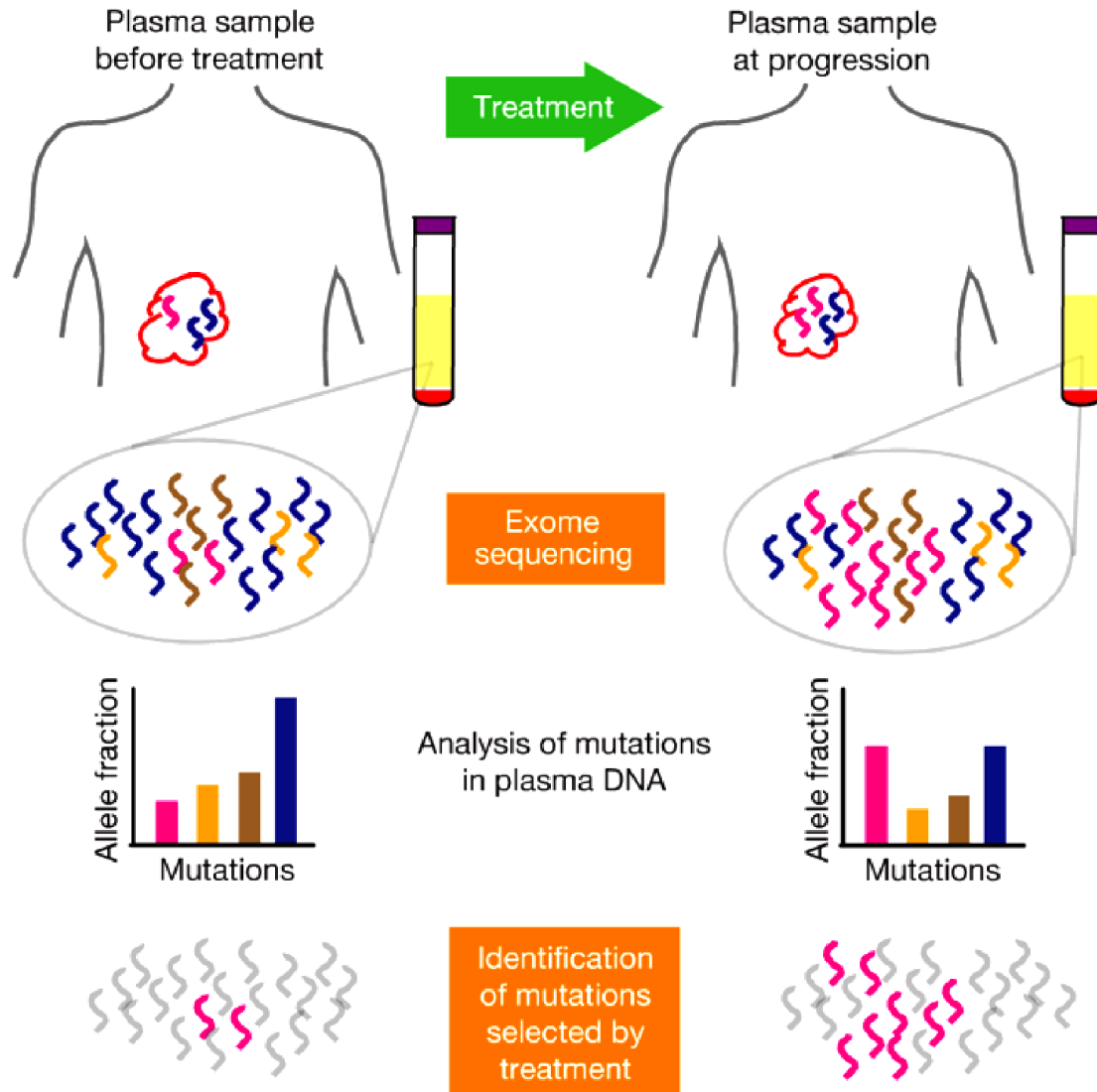
romano.danesi@unipi.it

EXPERT
REVIEWS

Molecular analysis of cell-free circulating DNA for the diagnosis of somatic mutations associated with resistance to tyrosine kinase inhibitors in non-small-cell lung cancer

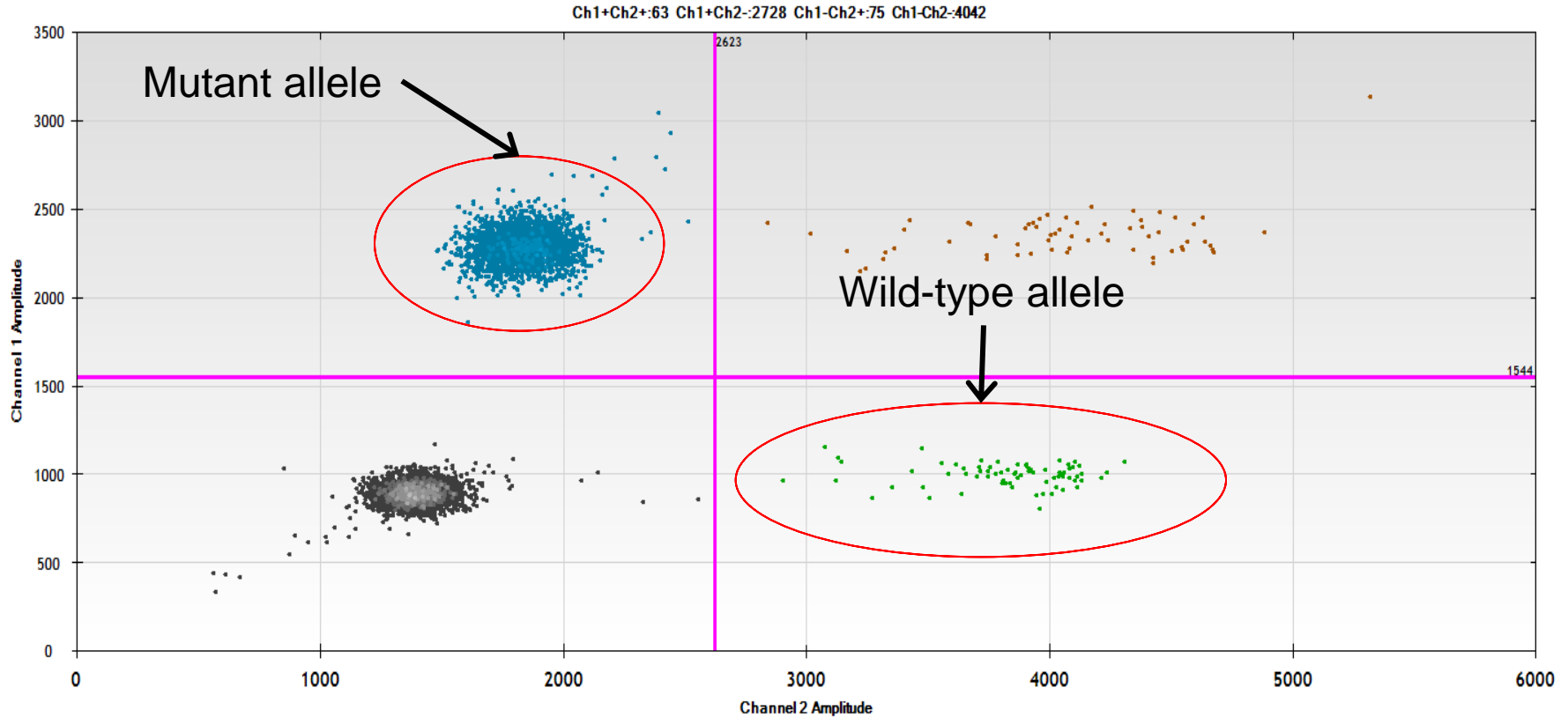
Expert Rev. Mol. Diagn. Early online, 1–16 (2014)

The evolutionary model of drug-induced tumor resistance





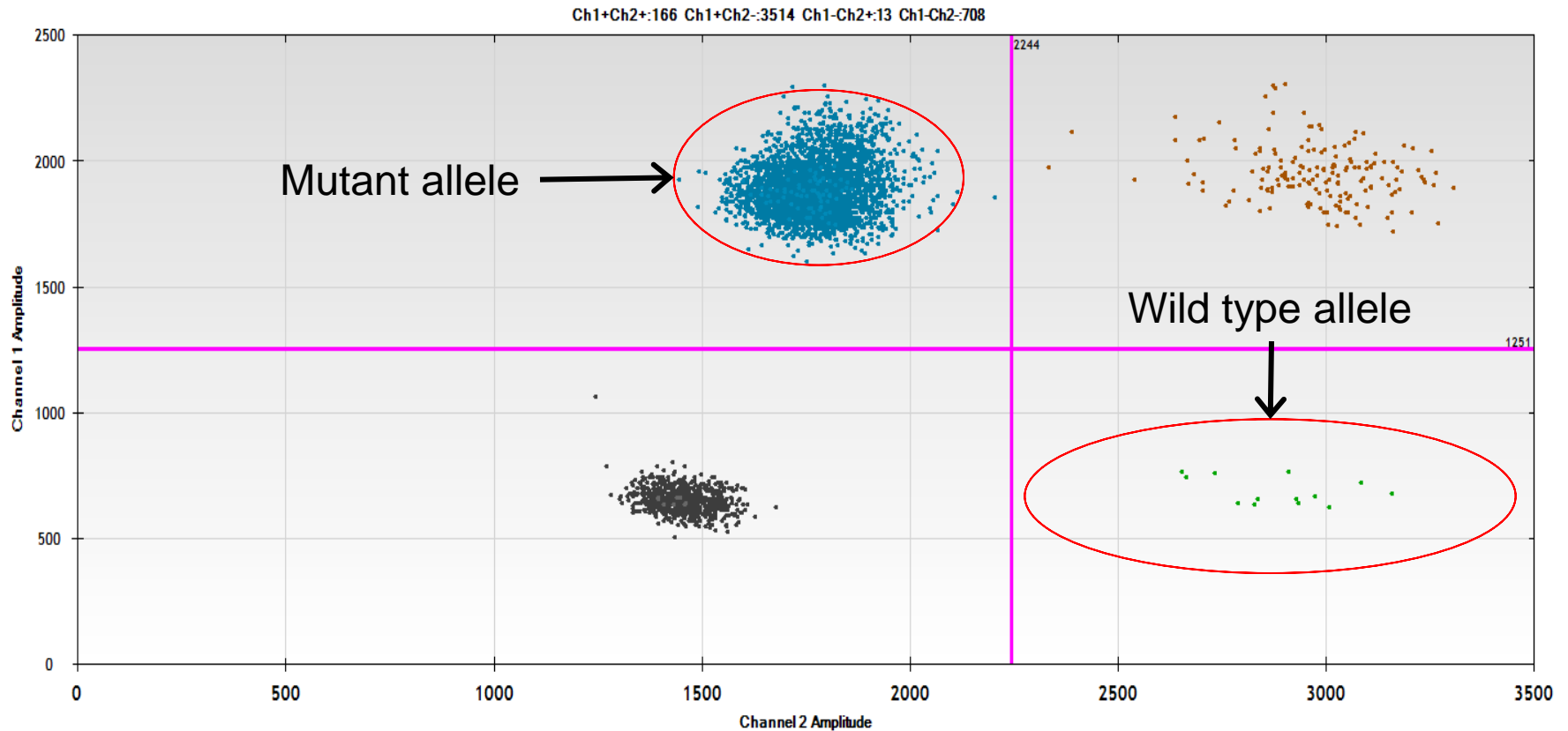
Mutation of KRAS in circulating DNA after gefitinib treatment



Del Re M et al., unpublished



Mutation of KRAS in circulating DNA after erlotinib treatment



Del Re M et al., unpublished



Conclusions

- **In patients with advanced HCC under sorafenib therapy, MTT prolongation at pCT follow-up can be used as a marker of treatment response.**
- **Baseline MTT could predict treatment response in patients candidate to sorafenib therapy.**
- **Tumor volume measurements are reproducible and should be considered as an alternative to RECIST, mRECIST and/or EASL since they may provide an early prognostic marker of response in HCC patients.**
- **“Liquid biopsy” is an opportunity to monitor the clinical evolution of cancer and allows the optimization of therapy by adapting treatment to the molecular evolution of the disease.**
- **KRAS mutation is associated with resistance to TKI and is an important diagnostic marker.**