

Circulating nucleosomes predict response to tyrosine kinase inhibitors in hepatocellular carcinoma (HCC)

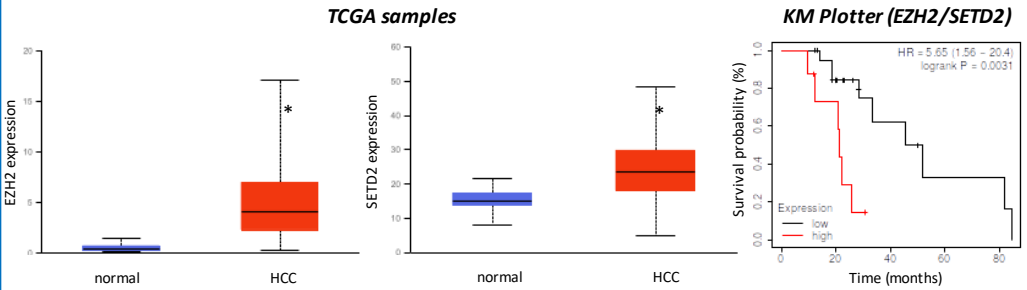
Salani, F.¹, Latarani, M.², Eccleston, M.³, Gangadharanambiar, P.², Fomaro, L.⁴, Casadeigardini, A.⁵, Ulivi, P.⁶, Masi, G.⁷ & Crea, F.^{2,1} Sant'Anna School of Advanced studies, Italy; ² The Open University, UK; ³ Volition Company, Belgium; ⁴ Azienda Ospedaliera Universitaria Pisana, Italy; ⁵ IRCCS San Raffaele Scientific Institute Hospital, Italy; ⁶ (IRST) IRCCS Modena, Italy; ⁷ Pisa University, Italy.

- No reliable predictive/prognostic biomarkers for sorafenib (SOR) treatment in advanced HCC;
- EZH2 drives SOR resistance through histone post-translational modification (HPTM) H3K27me3 (Wang S et al., *Transl. Oncol.*);
- EZH2 activity is counteracted by SETD2, which catalyzes histone H3K36me (Yuan W et al., *J. Biol. Chem.*).

First demonstration of the potential utility of circulating HPTM as predictive biomarkers in oncology.



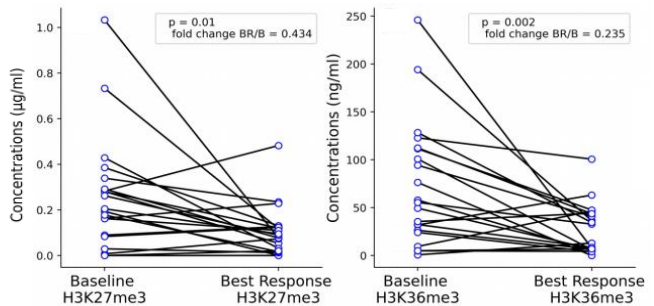
From bioinformatics



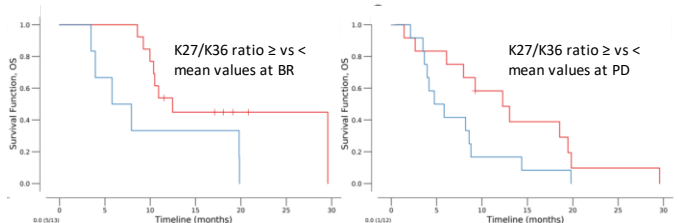
CONSIGLIO DI AMMINISTRAZIONE
 UNIVERSITÀ DI PISA

to clinical validation

80 plasma samples of advanced HCC patients on SOR collected at baseline, best response (BR) and progression (PD)



Proof of reduced tumour burden



Confirmed negative prognostic value of H3K27me3/H3K36me3