Small molecule in combination with Immune Checkpoint therapies Positive immunomodulation by specific VEGFR3 inhibition





Abstract #3970

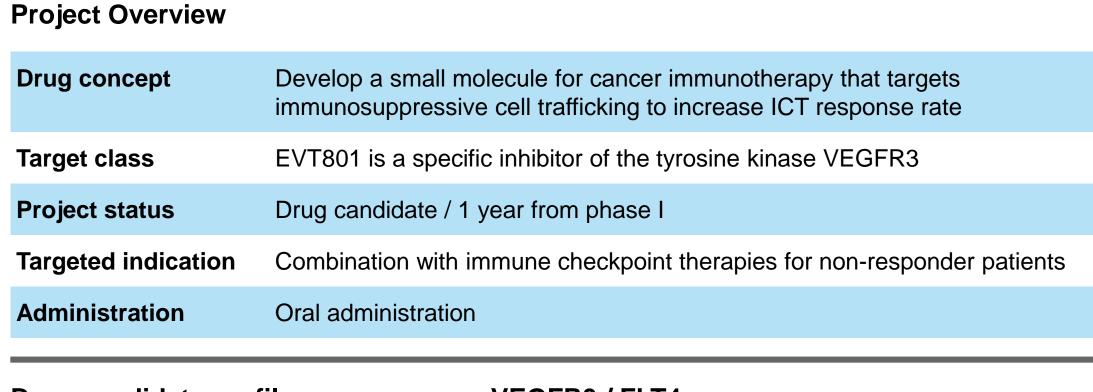
Pierre Fons¹, Michaël Esquerré¹, Gaëlle Badet¹, Pauline Barron¹, Jérémy Kagan¹, Antoine Alam², Jérôme Meneyrol¹, Isabelle Blanc², Roselyne Broussy¹, Florence Gaujarengues¹, Frédérique Dol¹, Pascal Cardon¹, Michael Paillasse¹, Joanna Lisztwan¹, Françoise Bono¹, Mark Whittaker

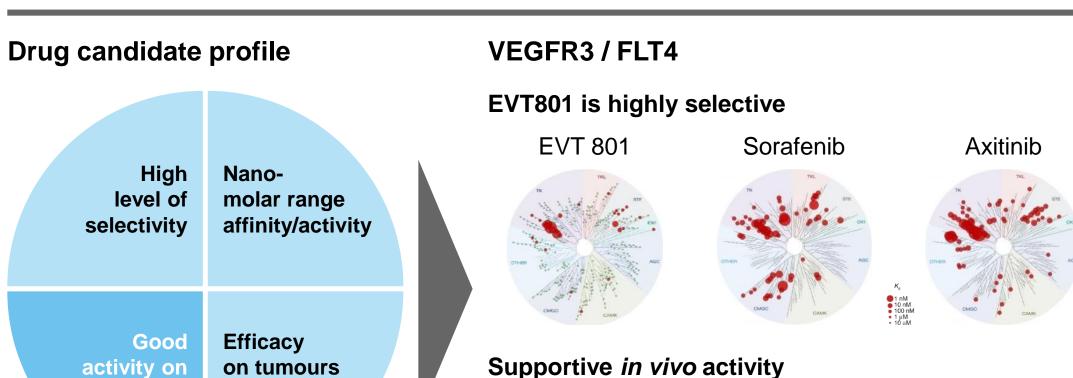
Full tumour control on DEN-induced tumour model

Intermediate tumour control on VEGFR3⁻ tumours with

¹Evotec, Toulouse, France: ²Sanofi, Lyon, France

VEGFR3





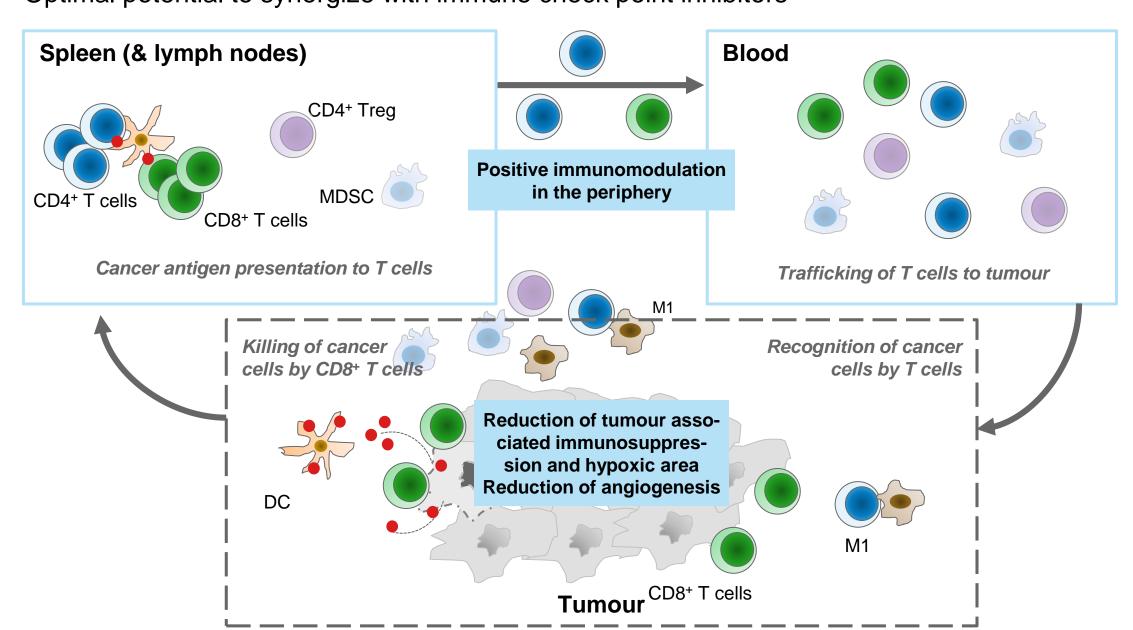
VEGFR3+ TME

Immuno-modulatory effects that we are seeking:

mouse

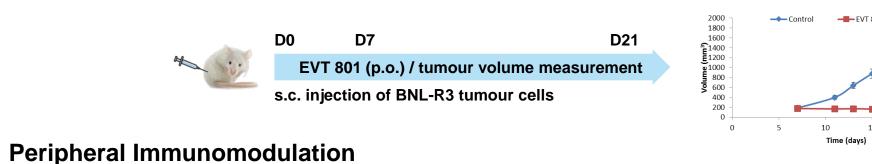
model

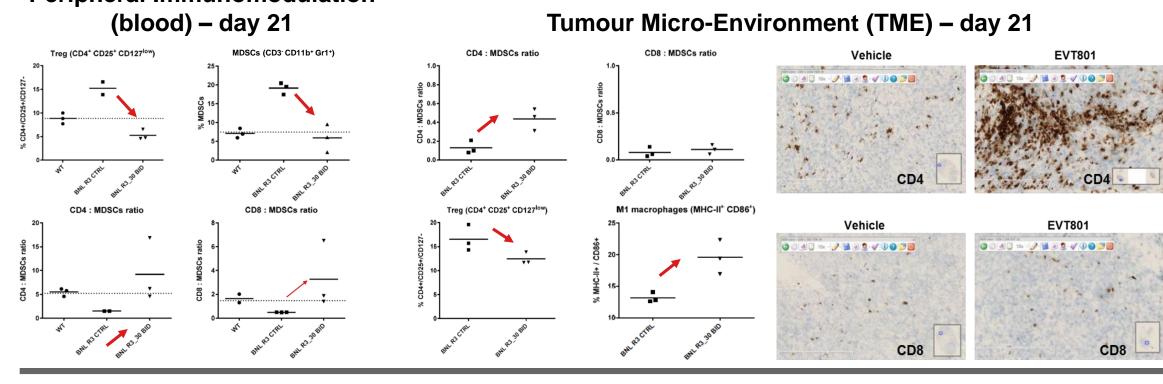
Optimal potential to synergize with immune check point inhibitors



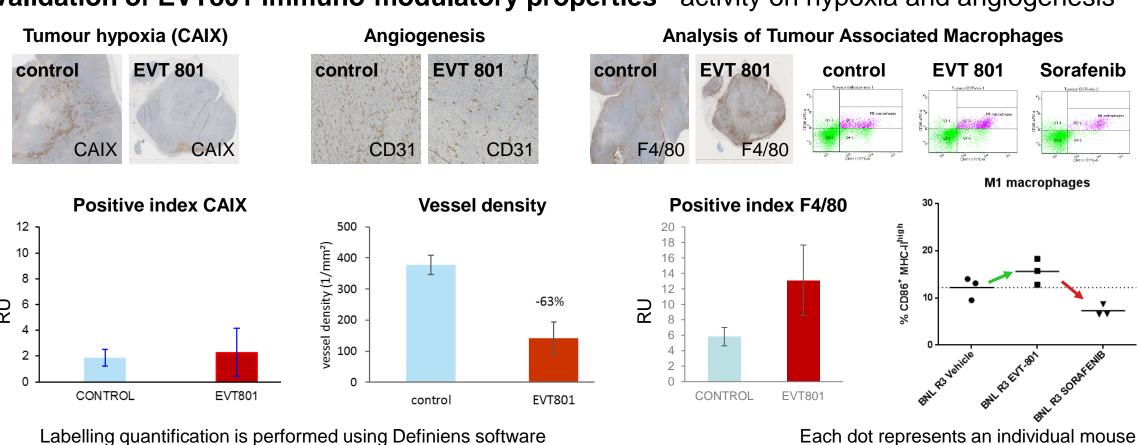
Increased efficacy of combinations with ICTs Combination with anti-CTLA-4 mAb Combination with anti-PD-1 mAb Tumor volume follow up Control +Isotype —Control + PD1 —EVT801 +Isotype —EVT801 + PD1 Dunnett's test

Validation of EVT801 immuno-modulatory properties - activity on immune cells





Validation of EVT801 immuno-modulatory properties - activity on hypoxia and angiogenesis



Clinical Translation: biomarkers of stratification and activity

VEGFR3 is expressed on 40-80% of the tumor **Patient** microenvironment stratification Specific cohorts are under investigation

Biomarkers of Signaling pathway

Collaboration with University Cancer institute of activity in blood Toulouse for specific markers in patients receiving ICT

in HNSCC patient

VEGFR3 expression

Conclusion Sustained

activity in tumor

tumour blood vessel normalization

 Decrease of angiogenesis

 Less Necrotic and Hypoxic tumours

Blood

 Decrease of immunosuppressive cells: MDSCs

Increase of T cell: MDSCs ratio

Tumour

associated

- Increase of CD4+ TILs

Decrease of tumour-

immunosuppression

- Decrease of CD45+ PD-L1+ cells
- Increase of M1 macrophages

Blockade of regulatory pathway in T cells

IFN-γ, TNF-α and GrB

Enhancement of antitumor immunity and activity on tumour microenvironment: Potential to induce durable clinical responses

Efficacy

- Nanomolar activity on functional cellular assays
- Strong anticancer effects in clinically relevant models
- Greater efficacy expected in human (lower IC₅₀ and clearance)

Selectivity

• ~10 fold less potent on VEGFR2 which is the only off-target

- Long lasting anticancer effect
- Sustained vessel normalization
- Reduction of immunosuppression associated to tumour immunity
- Sustained specific and memory T-cell responses without exhaustion

First in Man Phase I clinical trial

• Expected in 2018

Safety

- In vitro safety profile of EVT801 is compatible with progression into preclinical development
- Therapeutic index above 10 according to rat DRF and monkey MTD
- 4-week rat and monkey studies pending

EVT801 has the potential to enlarge patient population sensitive to immune check point inhibitors

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