

***In vivo* optical imaging of MMP2 immuno protein antibody: tumor uptake is associated with MMP2 activity**

Kranthi Marella Panth<sup>1\*</sup>, Twan van den Beucken<sup>1,2</sup>, Rianne Biemans<sup>1</sup>, Natasja G Lieuwes<sup>1</sup>, Marcel Weber<sup>3</sup>, Mario Losen<sup>4</sup>, Ala Yaromina<sup>1</sup>, Ludwig J Dubois<sup>1#</sup>, Philippe Lambin<sup>1#</sup>

<sup>1</sup>Department of Radiation Oncology (MAASTRO), GROW, MUMC, Maastricht, the Netherlands

<sup>2</sup>Department of Toxicogenomics, GROW, MUMC, Maastricht, the Netherlands

<sup>3</sup>Department of Chemistry and Applied Biosciences, Institute of Pharmaceutical Sciences, ETH Zürich, Zürich, Switzerland

<sup>4</sup>Department of Psychology and Neuropsychology, MHeNS, MUMC, Maastricht, the Netherlands

# indicates equal contribution

Running title: Imaging MMP2 activity with small immuno protein antibody

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\* Corresponding author: [kranthi.panth@maastrichtuniversity.nl](mailto:kranthi.panth@maastrichtuniversity.nl)

Department of Radiation Oncology (Maastro Lab), Grow - School for Oncology and Developmental Biology

Maastricht University Medical Centre, Universiteitssingel 50/23, PO Box 616, 6200 MD Maastricht

The Netherlands

Phone: +31 43 388 1586/2453

**Supplementary information:**

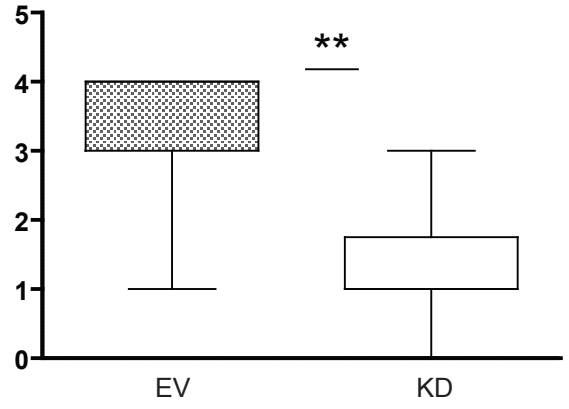
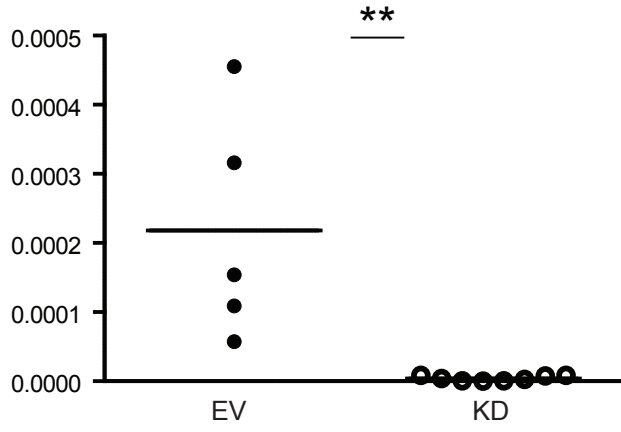
**Supplementary figure 1: *MMP2* expression in tumors**

MMP2 mRNA expression determined by qPCR (mean +/- SD) and MMP2 score (median with 5 and 95 percentile of atleast 5 samples) determined by immunohistochemistry in HT1080, U373 and U87 control (EV) and MMP2-KD (KD) tumors (\*\*P < 0.0001, \*P < 0.01, \*P < 0.05).

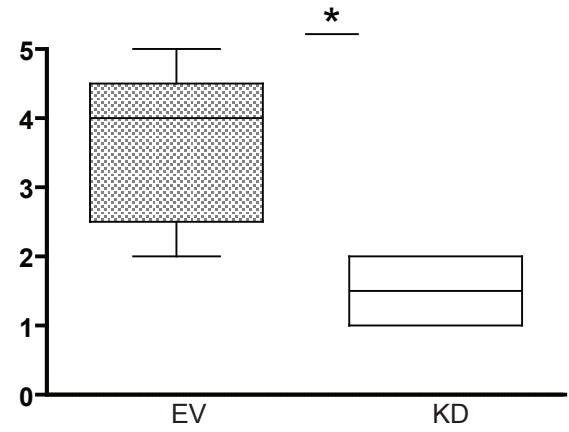
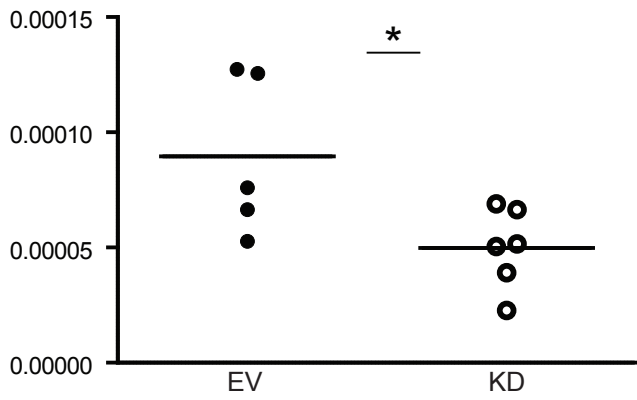
mRNA expression

MMP2 score

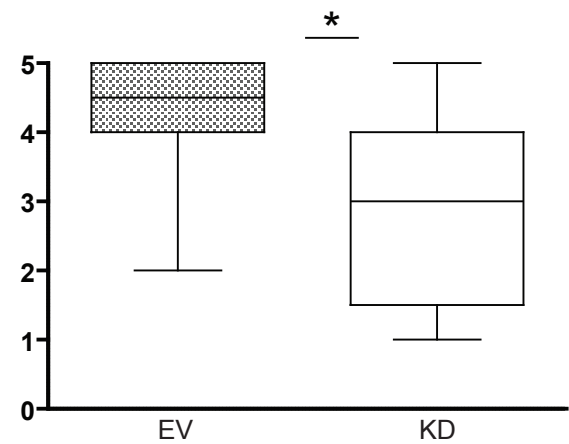
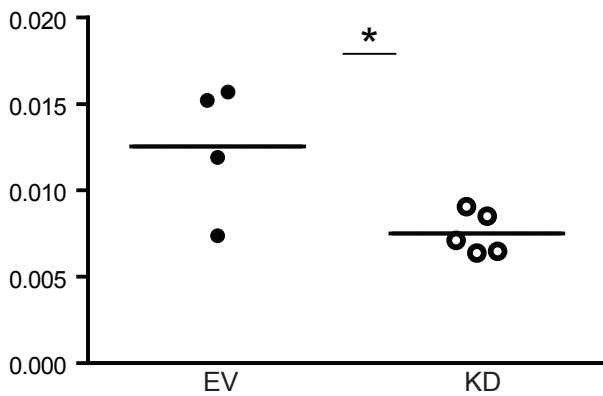
HT1080



U373



U87



**Supplementary figure 2:** *Representative images for tumor microenvironment*

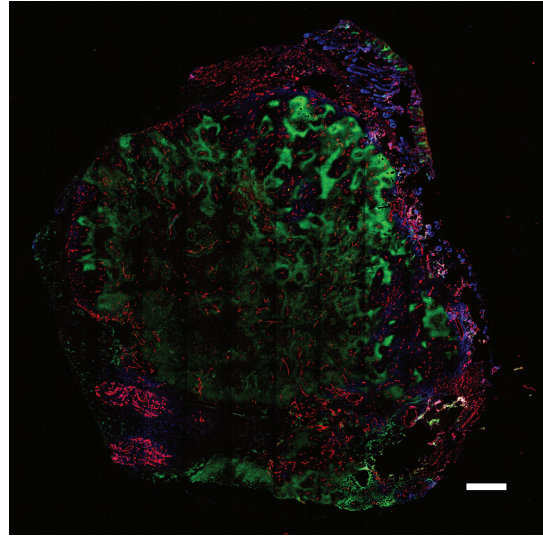
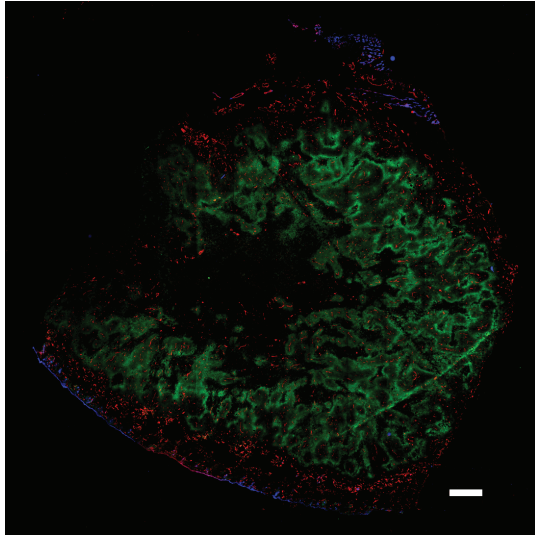
Immunohistochemistry images of HT1080, U373 and U87 control (EV) and MMP2-KD (KD) tumors stained for Hypoxia [pimonidazole (pimo)] in green, blood vessels (CD31) in red and perfused vessels (Hoechst) in blue. White bar represents a scale of 1mm.

EV

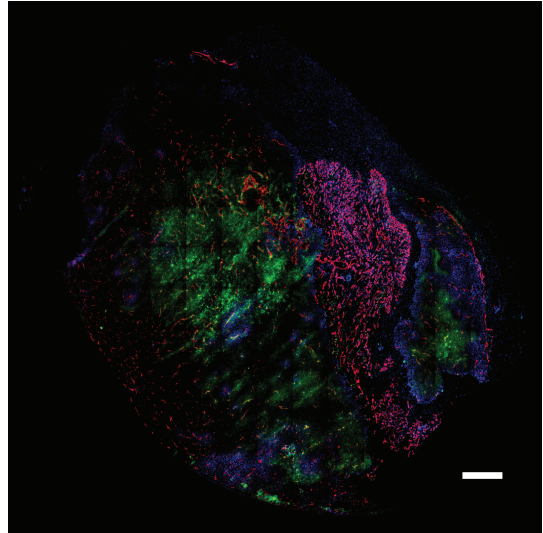
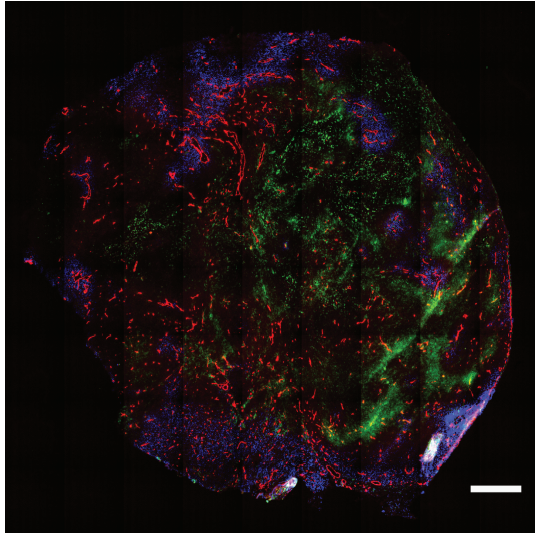
KD

Pimo  
CD31  
Hoechst

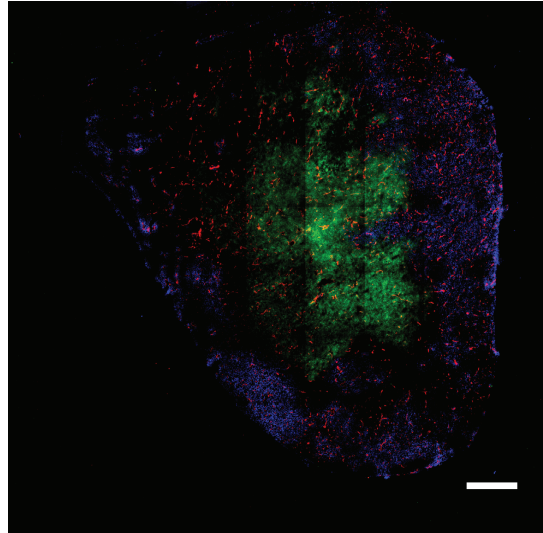
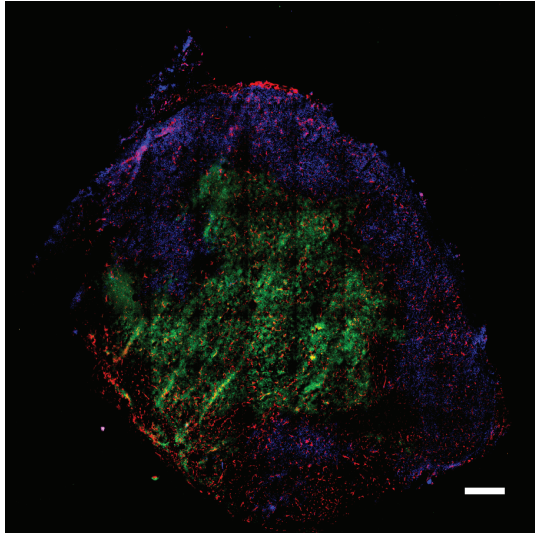
HT1080



U373



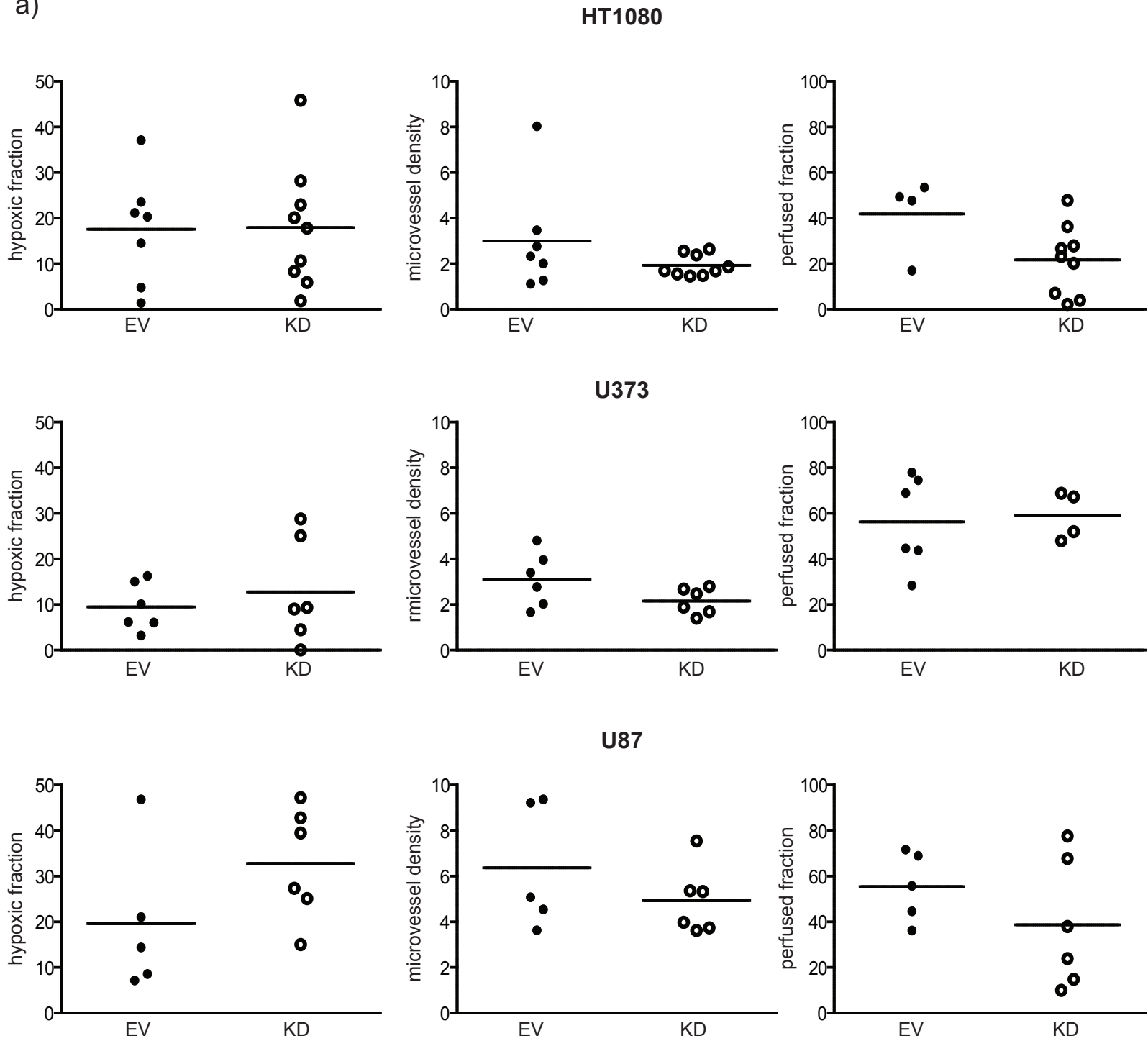
U87



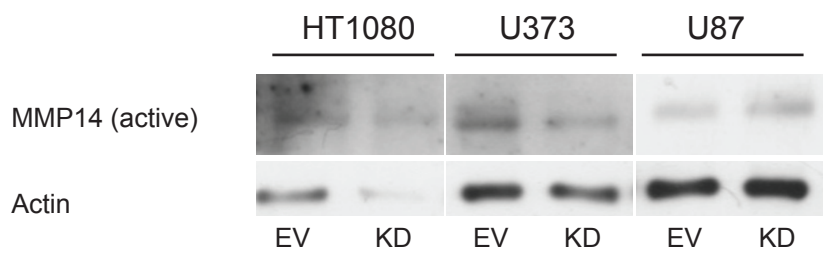
**Supplementary figure 3:** *Tumor microenvironmental characteristics and MMP14 expression*

(a) Quantification of the hypoxic fraction, microvessel density and the percent perfused vessels in HT1080 U373 and U87 control (EV) and MMP2-KD (KD) tumors. (b) Western blot analysis and (c) quantification of active MMP14 expression in tumor lysates. Data represents mean  $\pm$  SD of at least 5 samples.

a)



b)



c)

