Iron accumulation in tumor-associated macrophages marks an improved overall survival in patients with lung adenocarcinoma

Thielmann, Carl Maximilian ^{1,2,6}, Costa da Silva, Milene ^{1,2,3,4,6}, Muley, Thomas ^{5,6}, Meister, Michael ^{5,6}, Herpel, Esther ^{7,8}, Muckenthaler, Martina U.* ^{1,2,6}

¹ Department of Pediatric Oncology, Hematology and Immunology, University of Heidelberg, Heidelberg, Germany

² Molecular Medicine Partnership Unit (MMPU), University of Heidelberg & EMBL, Heidelberg, Germany

³ Graduate Program in Areas of Basic and Applied Biology (GABBA), University of Porto, Porto, Portugal

⁴ German Cancer Research Center (DKFZ), University of Heidelberg, Heidelberg, Germany

⁵ Translational Research Unit, Thoraxklinik, at University Hospital Heidelberg, Heidelberg, Germany

⁶ Translational Lung Research Center (TLRC), German Center for Lung Research (DZL), Heidelberg, Germany

⁷ Institute of Pathology, University of Heidelberg, Heidelberg, Germany

⁸ Tissue Bank of the National Center for Tumor Diseases (NCT), Heidelberg, Germany

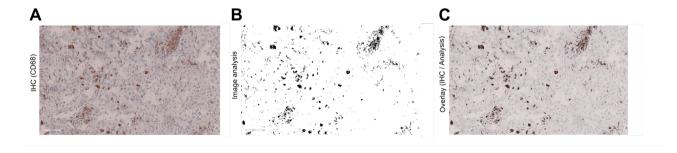
Supplementary Data

Supplementary Table 1 Overall survival rates (median) for cohorts in Figure 4

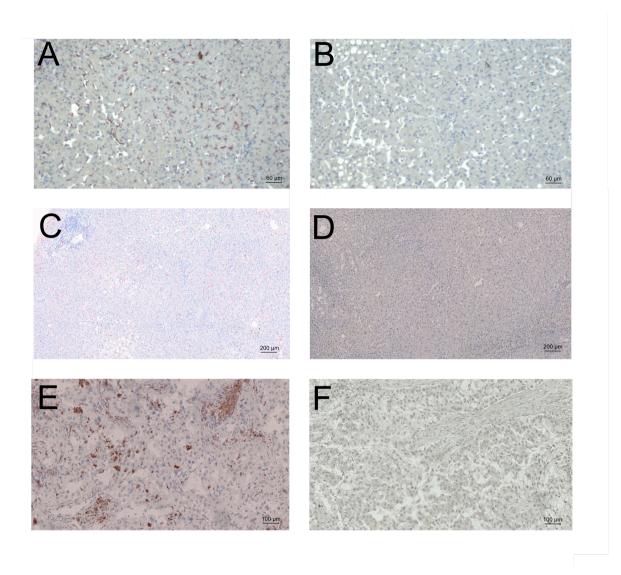
Investigated Cohort	OS (median)	Corresponding Figure
NSCLC (ADC + SCC)	71.9 months	Figure 4A
Adenocarcinoma (ADC)	71.5 months	Figure 4B
Squamous cell carcinoma (SCC)	103.3 months	Figure 4B
ADC (Fe ⁺)	75.8 months	Figure 4C, left
ADC (Fe ⁻)	31.45 months	Figure 4C, left
SCC (Fe ⁺)	61.8 months	Figure 4D, left
SCC (Fe ⁻)	119.2 months	Figure 4D, left
ADC (CD68 ^{High})	31.35 months	Figure 4C, right
ADC (CD68 ^{Low})	118.8 months	Figure 4C, right
SCC (CD68 ^{High})	139.1 months	Figure 4D, right
SCC (CD68 ^{Low})	107.0 months	Figure 4D, right



Supplemental Figure 1: Ilastik computer based separation of staining. (A) Example for the Perls' prussian blue staining before image analysis. **(B)** Example for simple segmentation separation of staining and background. **(C)** Overlay (opacity 50%) showing the accuracy of the segmentation.



Supplemental Figure 2: Ilastik computer based separation of staining. (A) Example for the CD68 Immunohistochemistry staining before image analysis. **(B)** Example for simple segmentation separation of staining and background. **(C)** Overlay (opacity 50%) showing the accuracy of the segmentation.



Supplemental Figure 3: Immunohistochemistry positive and negative controls. (A) Immunohistochemistry of splenic tissue. (B) Negative control of splenic tissue (without primary antibody) (C) Immunohistochemistry of hepatic tissue. (D) Negative control of hepatic tissue (without primary antibody) (E) Immunohistochemistry of lung tissue. (F) Negative control of lung tissue (without primary antibody).