Regulation of hematogenous tumor metastasis by acid sphingomyelinase

Alexander Carpinteiro^{1,2}, Katrin Anne Becker¹, Lukasz Japtok³, Gabriele Hessler¹, Simone Keitsch¹, Miroslava Pozgajova⁴, Kurt W. Schmid⁵, Constantin Adams¹, Stefan Müller⁶, Burkhard Kleuser³, Michael J. Edwards⁷, Heike Grassmé¹, Iris Helfrich⁸, Erich Gulbins^{1,7}

Departments of ¹Molecular Biology, ²Hematology, ⁵Pathology and Neuropathology, ⁶Nuclear Medicine and ⁸Dermatology of the University of Duisburg-Essen, Hufelandstrasse 55, 45122 Essen, Germany; ³Institute for Nutritional Science, University of Potsdam, 14558 Nuthetal, Germany; ⁴Slovak University of Agriculture, Department of Genetics and Breeding Biology, Tr. A Hlinku 2, 94976 Nitra, Slovakia; ⁷Department of Surgery, University of Cincinnati, Cincinnati, USA.

Table of contents:

Page 2: Supplementary Legends

Page 3: Supplementary Figure 1: Sphingosine 1-phosphate after co-incubation of B16F10 tumor cells with platelets

Page 4: Supplementary Figure 2: H⁺-ATPase clusters in ceramide-enriched membrane domains after co-incubation of tumor cells with platelets

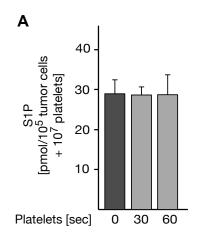
Supplementary Figure 1: Sphingosine 1-phosphate after co-incubation of B16F10 tumor cells with platelets

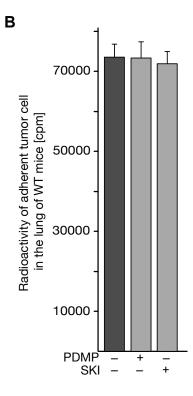
Co-incubation of B16F10 melanoma cells with wild type platelets does not result in formation of S1P as determined by mass spectrometry. Likewise, *in vivo* inhibition of glucosyltransferases or sphingosine kinases by application of PDMP or SKI does not alter B16F10 tumor metastasis. Shown is the mean \pm SD, from 4 independent samples, ANOVA.

Supplementary Figure 2: H⁺-ATPase clusters in ceramide-enriched membrane domains after co-incubation of tumor cells with platelets

H⁺-ATPase clusters in ceramide-enriched membrane domains on the surface of B16F10 cells after co-incubation of the tumor cells with platelets. Tumor cells were co-incubated with platelets for 60 seconds, fixed in 2% buffered PFA (pH 7.4) for 10 min, washed, blocked with H/S supplemented with 5% FCS and 0.01% Tween 20, washed, stained with anti-H⁺-ATPase antibodies (Santa Cruz Inc.) and anti-ceramide antibodies for 45 min, washed again and stained with FITC-labelled anti-goat and Cy3-labelled anti-mouse IgM antibodies. Finally, cells were washed, embedded in Mowiol and analysed by confocal microscopy. Shown are representative studies from 3 independent experiments.

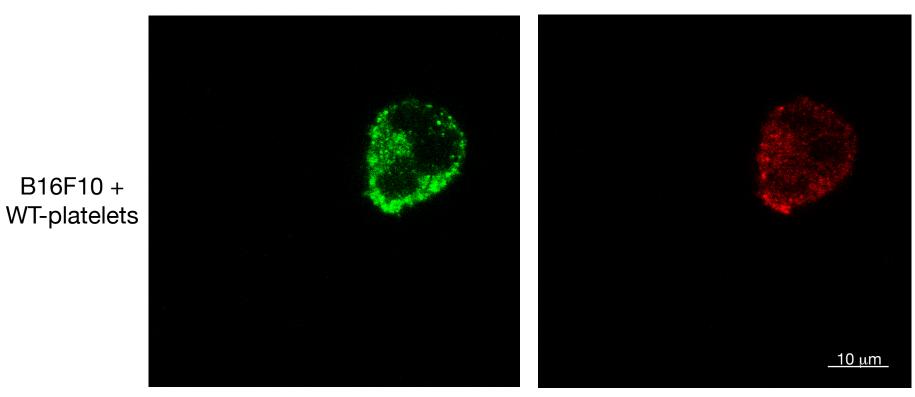
Supplementary Figure 1





Supplementary Figure 2

B16F10 +



H⁺-ATPase (FITC)

Ceramide (Cy3)