UNIVERSITY^{OF} BIRMINGHAM University of Birmingham Research at Birmingham

The Gp1ba-Cre transgenic mouse

Nagy, Zoltan; Voegtle, Timo; Geer, Mitchell; Mori, Jun; Heising, Silke; Di Nunzio, Giada; Gareus, Ralph; Tarakhovsky, Alexander; Weiss, Arthur; Neel, Benjamin G; Desanti, Guillaume; Mazharian, Alexandra; Senis, Yotis

DOI: 10.1182/blood-2018-09-877787

License: None: All rights reserved

Document Version Peer reviewed version

Citation for published version (Harvard):

Nagy, Z, Voegtle, T, Geer, M, Mori, J, Heising, S, Di Nunzio, G, Gareus, R, Tarakhovsky, A, Weiss, A, Neel, BG, Desanti, G, Mazharian, A & Senis, Y 2019, 'The Gp1ba-Cre transgenic mouse: a new model to delineate platelet and leukocyte functions', *Blood*, vol. 133, no. 4, pp. 331-343. https://doi.org/10.1182/blood-2018-09-877787

Link to publication on Research at Birmingham portal

General rights

Unless a licence is specified above, all rights (including copyright and moral rights) in this document are retained by the authors and/or the copyright holders. The express permission of the copyright holder must be obtained for any use of this material other than for purposes permitted by law.

•Users may freely distribute the URL that is used to identify this publication.

•Users may download and/or print one copy of the publication from the University of Birmingham research portal for the purpose of private study or non-commercial research.

•User may use extracts from the document in line with the concept of 'fair dealing' under the Copyright, Designs and Patents Act 1988 (?) •Users may not further distribute the material nor use it for the purposes of commercial gain.

Where a licence is displayed above, please note the terms and conditions of the licence govern your use of this document.

When citing, please reference the published version.

Take down policy

While the University of Birmingham exercises care and attention in making items available there are rare occasions when an item has been uploaded in error or has been deemed to be commercially or otherwise sensitive.

If you believe that this is the case for this document, please contact UBIRA@lists.bham.ac.uk providing details and we will remove access to the work immediately and investigate.

Supplemental Table 1

Supplemental Table 1. The *Pf4-Cre* mouse model was utilized in over 160 studies to date.

Supplemental Table 2

Supplemental Table 2. Mendelian frequencies of *Gp1ba-Cre* mice.

Genotype	Total number of mice	Expected frequency	Actual frequency
Gp1ba-Cre ^{+/+}	26	25%	20.8%
Gp1ba-Cre ^{+/KI}	67	50%	53.6%
Gp1ba-Cre ^{KI/KI}	32	25%	25.6%

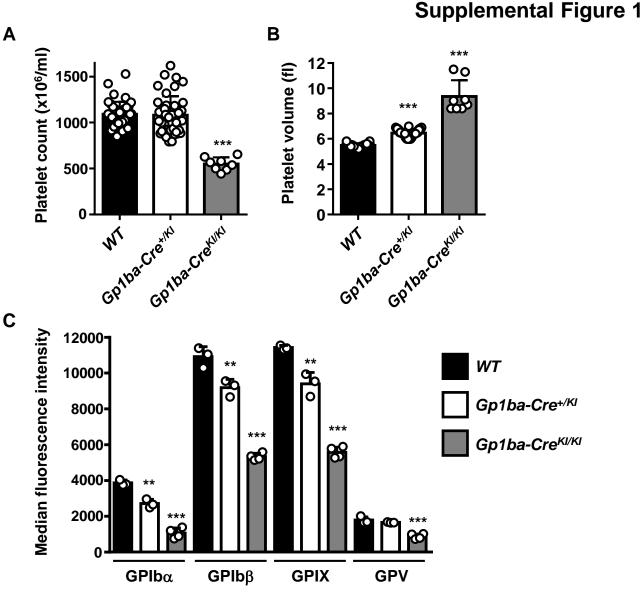
Data was collected from 7 breeding pairs (*Gp1ba-Cre*^{+/Kl} × *Gp1ba-Cre*^{+/Kl}).

Supplemental Table 3

Supplemental Table 3. Hematology data of *Gp1ba-Cre* mice.

Hematological parameters	$Gp1ba-Cre^{+/+}$ (mean \pm SD; n = 40)	$Gp1ba$ - $Cre^{+/Kl}$ (mean \pm SD; n = 42)
PLT (10 ⁶ /mL)	1090 ± 135	1079 ± 208
MPV (fl)	5.5 ± 0.1	$6.4\pm0.3^{***}$
RBC (10 ⁶ /μL)	11.4 ± 0.7	11.8 ± 1.0
HCT (%)	32.7 ± 2.8	33.4 ± 2.2
WBC (10 ³ /μL)	8.5 ± 3.1	7.5 ± 2.7
LYM (10 ³ /μL)	11.4 \pm 4.2	9.9 ± 3.6
MON (10 ³ /μL)	0.6 ± 0.4	$0.8\pm$ 0.6
NEU (10 ³ /μL)	1.6 ± 0.6	1.4 ± 0.4
EOS (10 ³ /μL)	0.04 ± 0.08	0.03 ± 0.09
BAS (10 ³ /μL)	0.09 ± 0.09	0.07 ± 0.07

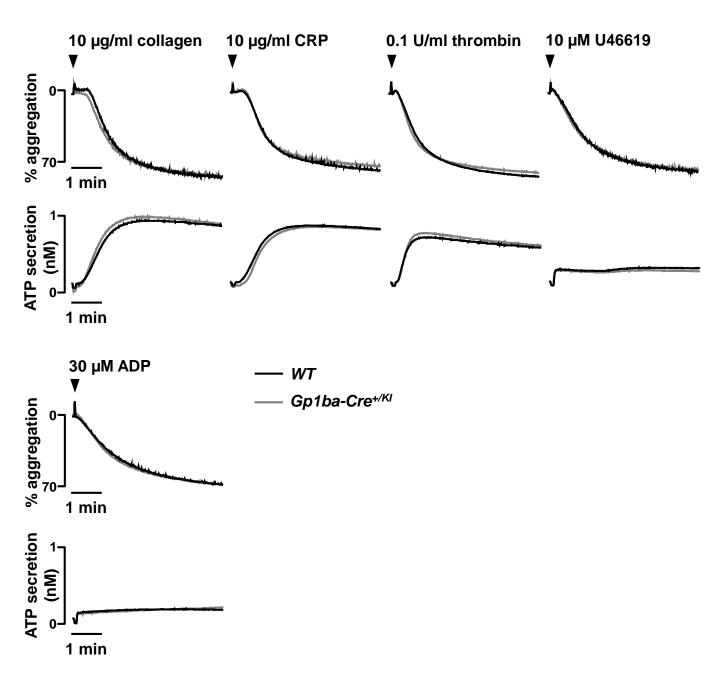
PLT, platelets; MPV, mean platelet volume; RBC, red blood cells; HCT, haematocrit, WBC, white blood cells; LYM, lymphocytes; MON, monocytes; NEU, neutrophils; EOS, eosinophils; BAS, basophils. ***P < 0.001, unpaired, two-tailed t-test, mean ± SD.



Supplemental Figure 1. Platelet parameters of the Gp1ba-Cre^{KI/KI} mouse.

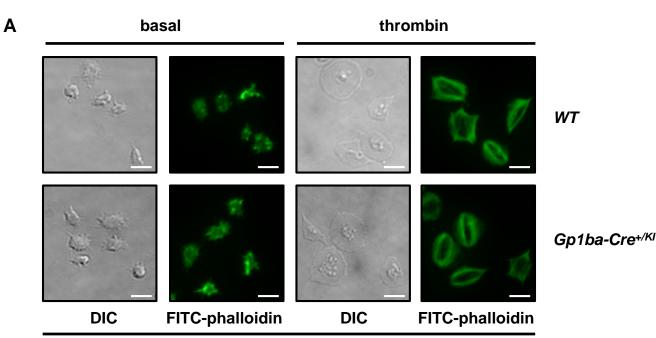
(A) Platelet counts, n = 8-42 mice/genotype. (B) Platelet volumes, n = 8-42 mice/genotype. (C) Platelet surface receptor expression of GPIb α , GPIb β , GPIX and GPV were measured by flow cytometry and shown as median fluorescence intensity, n = 3-4 mice/genotype. Asterisks refer to significant difference compared with WT (***P* < 0.01, ****P* < 0.001, 1-way ANOVA with Tukey's test) mean ± SD

Supplemental Figure 2

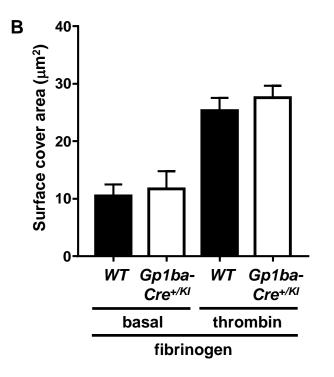


Supplemental Figure 2. Aggregation of *Gp1ba-Cre* platelets in response to higher agonist concentrations. Mean platelet aggregation and secretion traces in response to the indicated agonists, n = 4-8 mice/condition/genotype.

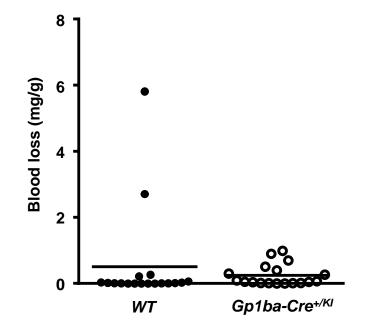
Supplemental Figure 3

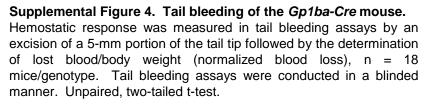


fibrinogen

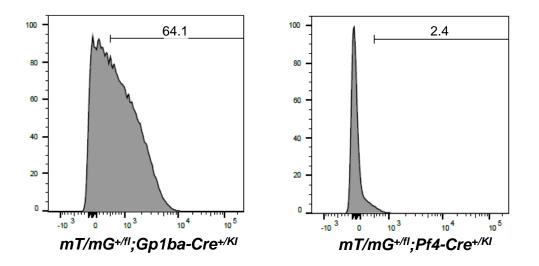


Supplemental Figure 3. Spreading of *Gp1ba-Cre* platelets on fibrinogen. (a) Representative differential interference contrast (DIC) microscopy images of resting (basal) and thrombin-stimulated (0.1 Units/ml) platelets spread on fibrinogen-coated cover-slips (100 μ g/ml, 45 minutes, 37°C), scale bar: 5 μ m. (b) Mean surface area of individual platelets quantified by ImageJ software, n = 5 mice/condition/genotype. Unpaired, two-tailed t-test, mean ± SD.





Supplemental Figure 5



Supplemental Figure 5. tdTomato+ fraction of eGFP+ platelets. n=6