

Manuscript no. HAEMATOL/2010/023168 entitled "Cdx4 is dispensable for murine adult hematopoietic stem cells but promotes MLL-AF9 leukemogenesis" Authors: Sumin Koo, Brian J. Huntly, Yuan Wang, Jing Chen, Kristina Brumme, Brian Ball, Shannon L. McKinney-Freeman, Akiko Yabuuchi, Claudia Scholl, Dimple Bansal, Leonard I. Zon, Stefan Fröhling, George Q. Daley, D. Gary Gilliland, Thomas Mercher

Information about the contributions of each person named as having participated in the study

1) **Guarantor(s)**, i.e., person(s) who is (are) responsible for the integrity of the work as a whole:

- Sumin Koo
- D. Gary Gilliland
- Thomas Mercher

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2) **Authors who participated in the conception of the study:**

Brian J. Huntly
Leonard I. Zon
Stefan Fröhling
George Q. Daley
D. Gary Gilliland
Thomas Mercher

3) **Design & Methods.** The following authors were responsible for specific investigations:

- *Brian J. Huntly, Jing Chen, Dimple Bansal, Gary Gilliland were responsible for the design and preparation of the Cdx4 cKO targeting construct.*
- *Akiko Yabuuchi, George Q. Daley, D. Gary Gilliland, Thomas Mercher were responsible for obtaining correctly targeted ES cell clones and germline transmission of the cKO allele.*
- *Yuan Wang, Shannon L. McKinney-Freeman, Akiko Yabuuchi, Leonard I. Zon, George Q. Daley, were responsible for obtaining and analyzing the Cdx4 straight KO.*
- *Sumin Koo, Kristina Brumme, and Brian Ball were responsible for maintenance and breeding of the Cdx4 conditional Knock-out mouse line.*
- *Sumin Koo, Brian J. Huntly, Kristina Brumme, Brian Ball, Claudia Scholl, Dimple Bansal, Leonard I. Zon, Stefan Fröhling, George Q. Daley, D. Gary Gilliland, Thomas Mercher were responsible for analysis of the phenotype of both KO lines.*

4) **Results.** The following authors were responsible for specific portions of the results, including figures and tables:

- *Sumin Koo, Brian J. Huntly, Jing Chen, Akiko Yabuuchi, Claudia Scholl, Dimple Bansal, Stefan Fröhling, D. Gary Gilliland, Thomas Mercher* were responsible for Figure 1.
- *Sumin Koo, Kristina Brumme, Brian Ball, D. Gary Gilliland, Thomas Mercher* were responsible for Figure 2.
- *Sumin Koo, Kristina Brumme, Brian Ball, D. Gary Gilliland, Thomas Mercher* were responsible for Figure 3.
- *Sumin Koo, Brian J. Huntly, Kristina Brumme, Brian Ball, Claudia Scholl, Stefan Fröhling, Gary Gilliland, Thomas Mercher* were responsible for Figure 4.
- *Sumin Koo, Dimple Bansal, Kristina Brumme, Brian Ball, D. Gary Gilliland, Thomas Mercher* were responsible for Figure 5.
- *Sumin Koo, Kristina Brumme, Brian Ball, D. Gary Gilliland, Thomas Mercher* were responsible for Table 1.
- *Sumin Koo, Brian J. Huntly, Yuan Wang, Jing Chen, Kristina Brumme, Brian Ball, Shannon L. McKinney-Freeman, Akiko Yabuuchi, Claudia Scholl, Dimple Bansal, Leonard I. Zon, Stefan Fröhling, George Q. Daley, D. Gary Gilliland, Thomas Mercher* were responsible for supplemental figures.

5) Writing the manuscript. The following authors were responsible for writing the manuscript:

- *Sumin Koo, Brian J. Huntly, Leonard I. Zon, Stefan Fröhling, George Q. Daley, D. Gary Gilliland, Thomas Mercher* were responsible for writing the manuscript
- *Sumin Koo, Brian J. Huntly, Yuan Wang, Jing Chen, Kristina Brumme, Brian Ball, Shannon L. McKinney-Freeman, Akiko Yabuuchi, Claudia Scholl, Dimple Bansal, Leonard I. Zon, Stefan Fröhling, George Q. Daley, D. Gary Gilliland, Thomas Mercher* approved the final version of the manuscript.

6) Contributors Listed in Acknowledgments:

We are very grateful to Mahnaz Paktinat for flow cytometry analyses and Rachel Okabe and Maricel Gozo for technical assistance. This work was supported in part by NIH grants (D.G.G.), the Leukemia and Lymphoma Society (D.G.G.). B.J.H. was supported by an EHA José Carreras Young Investigator Fellowship and is an MRC (UK) senior clinical fellow. S.F. is the recipient of an EHA José Carreras Young Investigator Fellowship. T.M. was supported by a Leukemia and Lymphoma Society Special Fellow Award (#3431-06), is the recipient of an EHA José Carreras Young Investigator Fellowship and is an INSERM investigator.