United States securities and exchange commission logo

September 16, 2020

Norbert Bischofberger, Ph.D.
President and Chief Executive Officer
Kronos Bio, Inc.
1300 So. El Camino Real, Suite 300
San Mateo, CA 94402

Re: Kronos Bio, Inc.
Amendment No. 1 to Draft Registration Statement on Form S-1
Submitted September 3, 2020
CIK No. 0001741830

Dear Dr. Bischofberger:

We have reviewed your amended draft registration statement and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by providing the requested information and either submitting an amended draft registration statement or publicly filing your registration statement on EDGAR. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing the information you provide in response to these comments and your amended draft registration statement or filed registration statement, we may have additional comments.

Amendment No. 1 to Draft Registration Statement on Form S-1 submitted September 3, 2020

Overview , page 1

1. We note your disclosure on page 4 that you anticipate making your first IND submission from among the discovery programs in 2022. We also note that the milestones column in the discovery program table indicates an IND submission in 2022 and appears to apply to all programs. Please revise your disclosure to clarify whether a IND submission is expected for each discovery program in 2022 or revise the table accordingly. Additionally, we note that the MYC discovery program does not include a specific indication. Please explain why such discovery program is sufficiently material to include in the table or remove the program.

2. Please remove the timeline associated with the initiation of the Phase 2/3 program for KB-0742 from the anticipated milestones column in your pipeline table, as it appears to be premature and speculative, or explain why such disclosure is appropriate.

3. We not your disclosure that you are currently planning to initiate a

single-arm Phase 1/ 2
clinical trial in 2021 for ENTO in subjects with relapsed or refractory FLT3 mutated
AML. However, your pipeline table suggests that you have already completed a Phase 1
clinical trial. Please shorten the second arrow for ENTO as appropriate to illustrate the
product candidate's current status.

4. We note your disclosure that your End of Phase 2 meeting with the FDA and similar
discussions with European regulatory agencies are not expected to occur until the first half
of 2021 and that following and subject to such discussions you plan to proceed to a
registrational Phase 2/3 trial. Please revise your disclosure throughout the prospectus to
make it clear that you have not yet discussed with the FDA the potential of your Phase 2/3
clinical trial to serve as a registrational trial. For example, please include such disclosure
on page 1 where you first discuss your plans to initiate a registrational Phase 2/3 clinical
trial in 2021.

SYK Program: ENTO and LANRA, page 2

5. Please revise your disclosure to include the actual results observed in the retrospective
analysis, including with respect to CR rates and overall survival. Please also indicate the
number of subjects analyzed. In an appropriate location in your prospectus, please also
explain how you determined which subjects had high HOX/MEIS mRNA expression and
which subjects had low HOX/MEIS mRNA expression.

Prior Development of ENTO, page 119

6. We note your response to prior comment 9 and your revised disclosure that five subjects
reported serious AEs assessed by the investigator as related to ENTO. To the extent there
was a serious AE that the investigator could not determine was unrelated to treatment,
please clearly disclose the event and the number of affected patients.

Therapeutic Rationale and Clinical Data in HOX/MEIS-High AML, page 120

7. We note your disclosure that retrospective biomarker analysis of Arm A explored the
hypothesis that patients with high HOX/MEIS mRNA are more likely to benefit from the
addition of ENTO to IC. We also note your discussion of CR rates in the genetic subsets
associated with high HOX/MEIS expression (NPM1 and MLL-r) compared to patients
with neither mutation. Please clarify whether an analysis was conducted comparing CR
rates in patients with these genetic subsets receiving combined ENTO and IC therapy to
CR rates in patients with these genetic subsets of patients receiving IC alone or whether
there are historical CR rates in these genetic subsets for IC therapy alone.

Norbert Bischofberger, Ph.D.
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Kronos Bio,LastNameNorbert Bischofberger, Ph.D.
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Page 3 16, 2020 Page 3
FirstName LastName

You may contact Sasha Parikh at 202-551-3627 or Julie Sherman at 202-551-3640 if you
have questions regarding comments on the financial statements and related matters. Please
contact Deanna Virginio at 202-551-4530 or Tim Buchmiller at 202-551-3635 with any other
questions.

Sincerely,

Division of Corporation

Office of Life Sciences

Finance

cc: Charles J. Bair, Esq.