RETRACTION: Small molecule–based reversible reprogramming of cellular lifespan

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In this paper, we described the application of magnetism-based interaction capture (MAGIC) to find a small-molecule protein target. MAGIC identified the protein ATM as the target of CGK733, a small molecule reportedly isolated by high-throughput screening. A preliminary investigation of the contents of the paper by Korean Advanced Institute of Science and Technology (KAIST) has revealed several irregularities. First, the KAIST investigation found no evidence that the high-throughput screen to identify CGK733 as an anti-senescence agent was carried out. Subsequent experiments in the paper exploring the cellular effects of CGK733 were misrepresented: the data actually were obtained using chemical compounds that are similar but not identical to CGK733. Second, application of MAGIC technology for identifying ATM as the target of CGK733 was fabricated. The compound "CGK733-biotin," which was essential for ATM target validation by MAGIC, had not been synthesized by the time the paper was published and was not used in the study as reported. Finally, our original notebooks and data are not available to substantiate the scientific claims of the paper. We have therefore lost confidence in the scientific validity of this Letter and are retracting it in full. We apologize for any adverse consequences that may have resulted from the paper's publication and any inconvenience and wasted effort that this may have caused the scientific community and readers of the journal.

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Editor's note: T.K. Kim supports the retraction of the paper but maintains that the irregularities are confined to Figure 2 of the paper—specifically, that the MAGIC screening was improperly performed and the chemical structure of CGK733 was misrepresented.