

Biobanker as a true banker

Editorial

A good banker collects savings from people and lends the money to the project he believes will have good return. A banker decides the rates of deposit and lending based on his/her vision so that to make a profit. A good banker will never collect more money than he can lend at a higher rate and pay for using the safe box. Good banker play central role in money circulation in my opinion.

Samples are valuable or even invaluable. They are abundant for countries with huge population. Collecting expenses is relatively cheap. But safe boxes for biobankers are not cheap. The bills for electricity and liquid nitrogen can be very significant. Sustainability issue will be more and more serious as biobank sector grows. I believe a biobanker should not only care about where to get samples, where to put them safely technically and where to find money to pay the bill, but also more importantly where to use the samples for the benefit of medicine. A lot of biobankers are waiting for the customers to come to borrow.

I think biobankers should play central role in sample circulation too just like the bankers. In China, where clinicians are extremely busy taking care of patients, biobankers should stand up, study the needs of medicine, help to design the projects, show the clinicians what samples should be collected, how to collect and how to keep them safely, send the samples out for proper analysis and even help to analyze the data. In this way, the samples can circulate just like the money circulates.

How to become a good biobanker in the future? Collecting samples and putting samples in a safe place are definitely not enough. Knowing the ways to find money to foot the bills is not enough either. To make the samples calculating, it is essential for biobankers to understand the current developments of related areas of medicine, such as biomarker field, especially urine biomarker.

Not all biobankers saves urine samples because there is few researchers using them and the cost of saving large quantity of urine samples can be expensive. Biobankers are usually proud of how many brains in their collection since they are so rare and hard to find. Saving a lot of urine, which everybody dumps, makes a biobanker shamed and smelly.

As the homeostasis of internal environment theory applied in the field of biomarker, biomarker, which is the measurable changes associated with the disease, should be found earlier and more sensitively in urine rather than blood with homeostatic control in early stage of the disease.¹ More and more evidences that support this urimarker theory are emerging in animal model studies and even in small scale clinical studies.²⁻¹⁴ The foreseeable future is large scale clinical studies. Smart biobankers should see the potential of urine samples and start to collect, especially it is easy simple and cheap to do it with urimem method¹⁵ I dare to estimate that urimem will be half of all the samples in a biobank in the not too far away future. It will be the currency of biobankers in the future. A biobanker will find it is cheap to take in, zero cost to keep and easy to lend out at a great rate to borrowers from almost all departments of the hospital. Biobanker should think and work likes a true banker.

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Conflict of interest

Author declares there is no conflict of interest.

References

1. Gao Y. Urine—an untapped goldmine for biomarker discovery? *Sci China Life Sci.* 2013;56(12):1145–1146.
2. Ni YY, Zhang FS, An MX, et al. Changes of urinary proteins in a bacterial meningitis rat model. *Chin J Biotech.* 2017;33(7):1–13.
3. Yin W, Qin W, Gao Y. Urine glucose levels are disordered before blood glucose level increase was observed in Zucker diabetic fatty rats. *Sci China Life Sci.* 2017;10:1007.
4. Wu J, Guo Z, Gao Y. Dynamic changes in the urine proteome of a Walker 256 tumor-bearing rat model. *Cancer Med.* 2017;6(11):2713–2722.
5. Wu J, Li X, Zhao M, et al. Early detection in urinary proteome for effective early treatment of bleomycin-induced pulmonary fibrosis in rat model. *Proteomics Clin Appl.* 2017;11:11–12.
6. Ni Y, Zhang F, An M, et al. Early candidate biomarkers found from urine of astrocytoma rat before changes in MRI. *China Life Sc.* 2017;10.1101/117333.
7. Zhao M, Wu J, Li X, et al. Urinary candidate biomarkers in an experimental autoimmune myocarditis rat model. *J Proteomics.* 2018;179:71–79.
8. Zhan F, Ni Y, Yuan Y, et al. Early urinary candidate biomarker discovery in a rat thioacetamide-induced liver fibrosis model. *bioRxiv.* 2017;1–20.
9. Zhao M, Wu J, Li X, et al. Early urinary candidate biomarkers in a rat model of experimental autoimmune encephalomyelitis. *bioRxiv.* 2018;1–20.
10. Zhang F, Wei J, Li X, et al. Early candidate urine biomarkers for

- detecting Alzheimer's disease before beta amyloid plaque deposition in an APP (swe)/PSEN1dE9 transgenic mouse model. *bioRxiv*. 2018;10.1101/258921.
11. <http://www.paper.edu.cn/releasepaper/content/201801-64>
 12. <http://www.paper.edu.cn/releasepaper/content/201801-68>
 13. <http://www.paper.edu.cn/releasepaper/content/201712-134>
 14. Wei J, Ni N, Zhang L, et al. Early candidate biomarkers in urine of Walker-256 lung metastasis rat model. *bioRxiv*. 2018;1–48.
 15. Wu J, Zhang J, Zhao Y, et al. Candidate urine biomarker discovery from only five pairs of samples before and after tumor resection in glioma patients. *bioRxiv*. 2018;1–19.