

# Biofluid Biomarker Center (BB-C) Niigata University, Prof. Yamamoto



## All in one urine test : Total health check

### 【Keywords】

Urine

Biomarker

Health check

Multiple analysis

Futuristic health care

■ Abstract

Urine is the bio-fluid which reflect the internal environment of body and also can collect with non-invasive. Final goal of all in one urine test is to understand health and early diagnosis with one time test by comprehensive analysis of proteins and peptides. We already collect over the 3000 of healthy volunteers and disease samples. Furthermore, we try to construct the novel health check in the future.

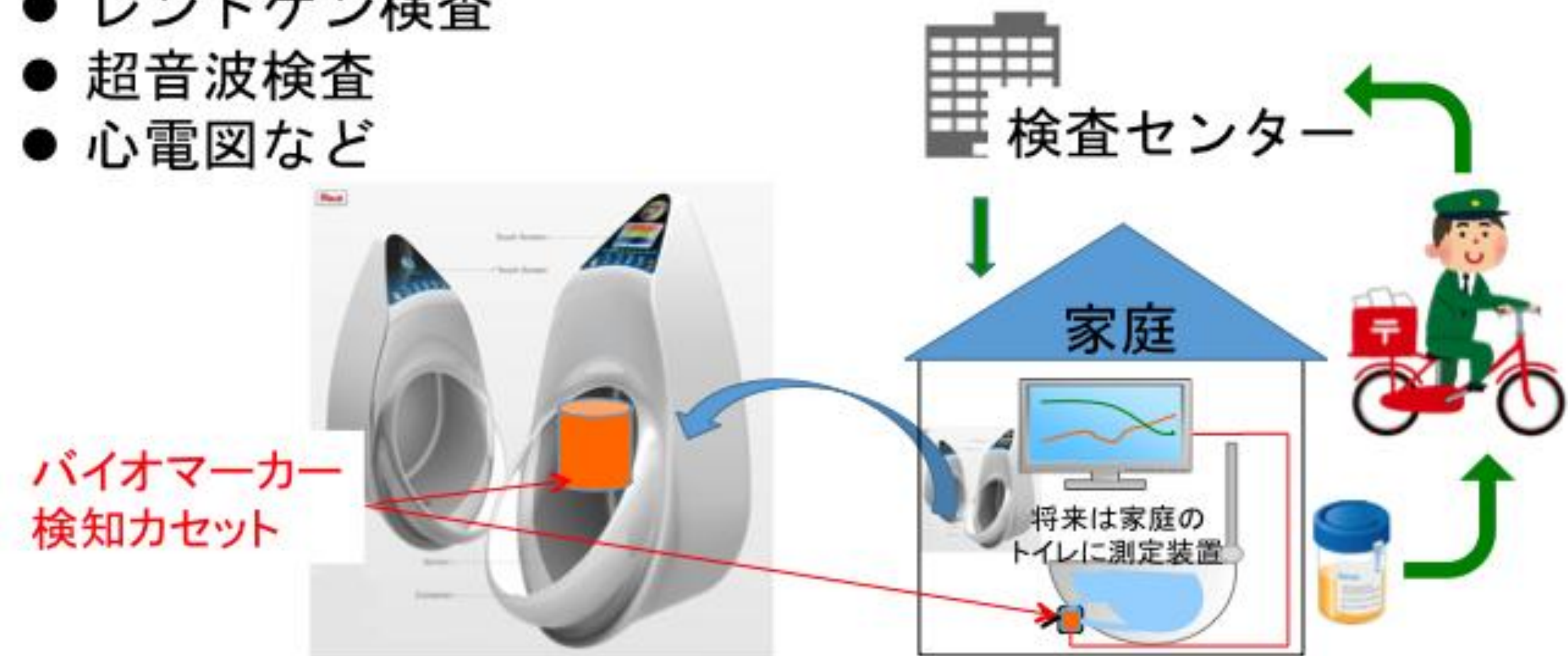
### Futuristic health check

#### 現行の健康診断：年1回

- 血液検査
- 尿検査
- レントゲン検査
- 超音波検査
- 心電図など

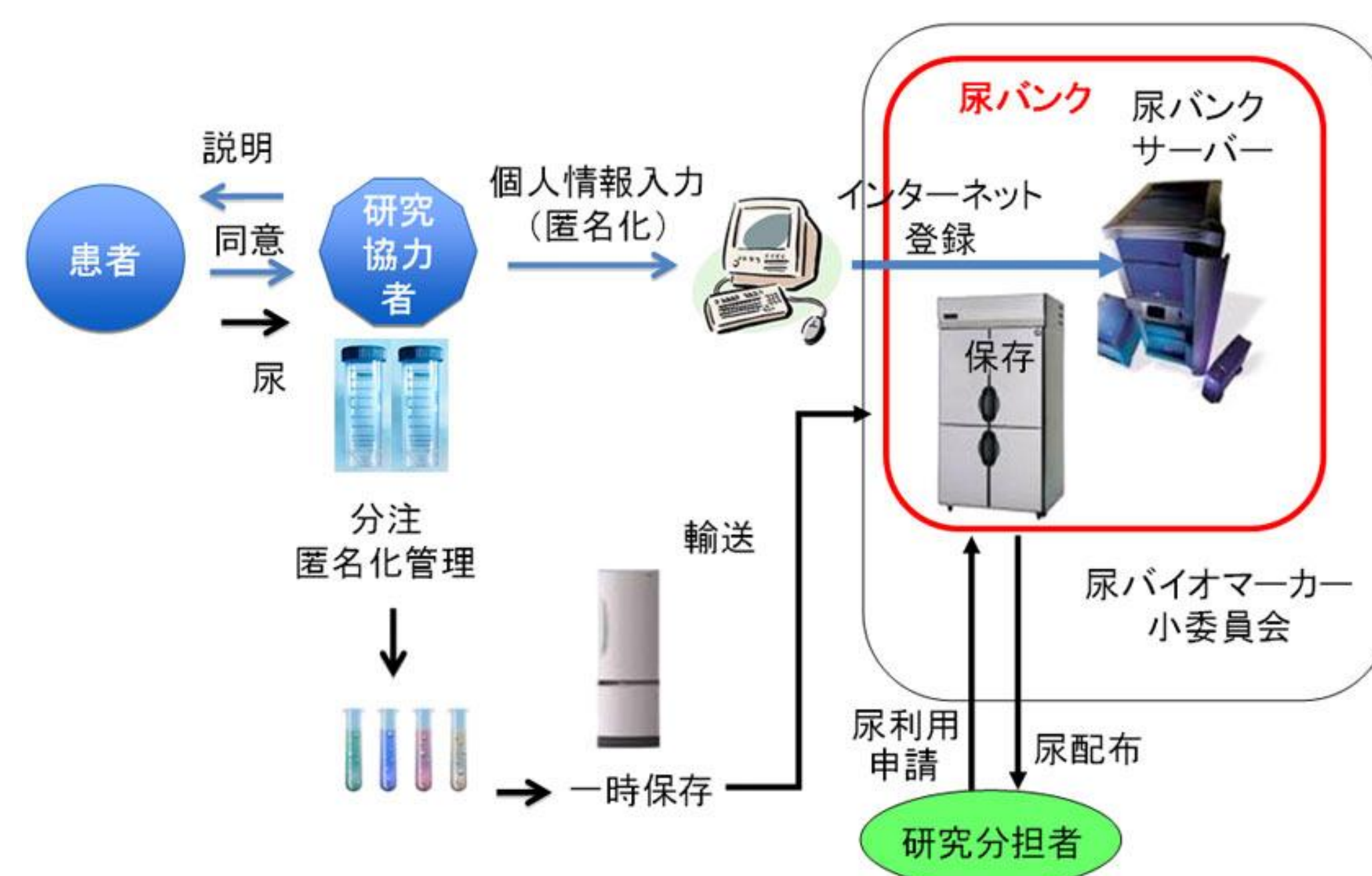
#### 未来の健康診断：年数回

尿検査で一次チェック：  
検査センター→家庭へ



### Japan urine bank (www.urinebank.org)

健康者	IgA腎症	ネフローゼ	糖尿病性腎症	その他腎疾患	感染症	脳疾患	その他疾患
720	138	46	28	414	37	20	1669



- Tie-up facility -
- Niigata Univ.
  - Osaka Univ.
  - Kyoto Univ.
  - Tohoku Univ.
  - Kanazawa Univ.
  - Hospital
  - Company

■ Detail

### Advantages of project

1. Urine bank store healthy and disease urine
2. High efficiency purification of proteins from frozen urine
3. Protein identification and quantification by MS analysis
4. Comparison of protein between healthy and disease
5. Selection of biomarker candidate
6. Validation and construction of assay system by antibody

### All in one urine test

Establish the comprehensive analysis of protein and peptide by MS

- Protein and peptide purification
- Profile of the healthy human urine protein
- Evaluation of health situation for healthy

Discover the biomarker for all diseases and health balance

- Identification of biomarkers
- Establishment the assay system

Implementation

- Novel health check from hospital to home: daily health check
- Utilize at the site of medical and drug



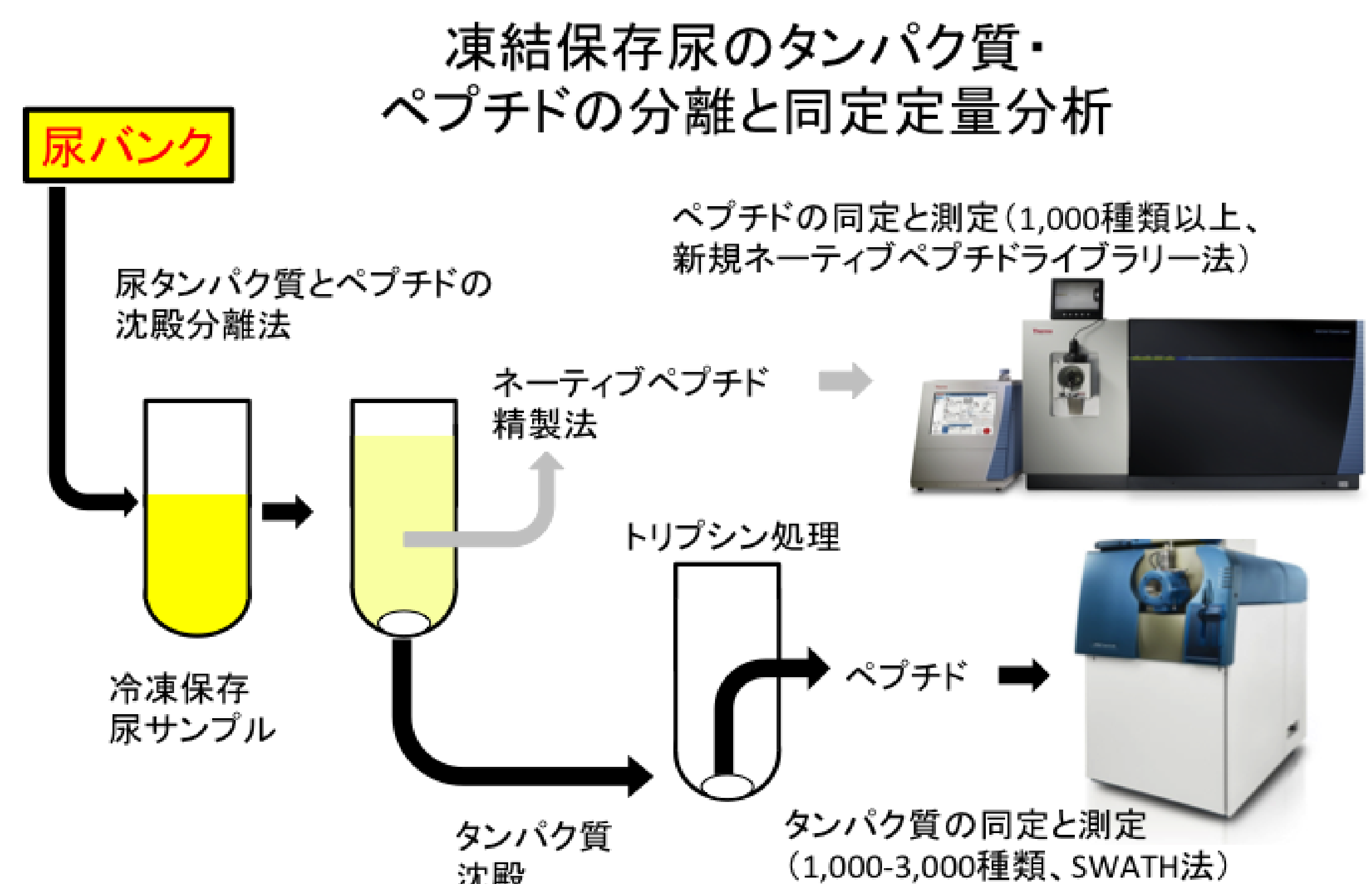
Cooperation

- Inspection
- Medical
- Health
- Beauty
- Food
- Hospital
- University
- so on...

Urine test provide you many information

- Enhance the health awareness
- Contribute to long living

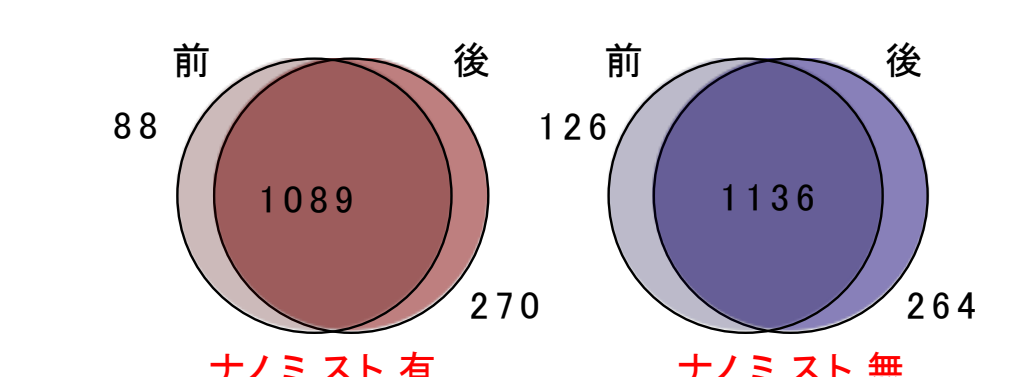
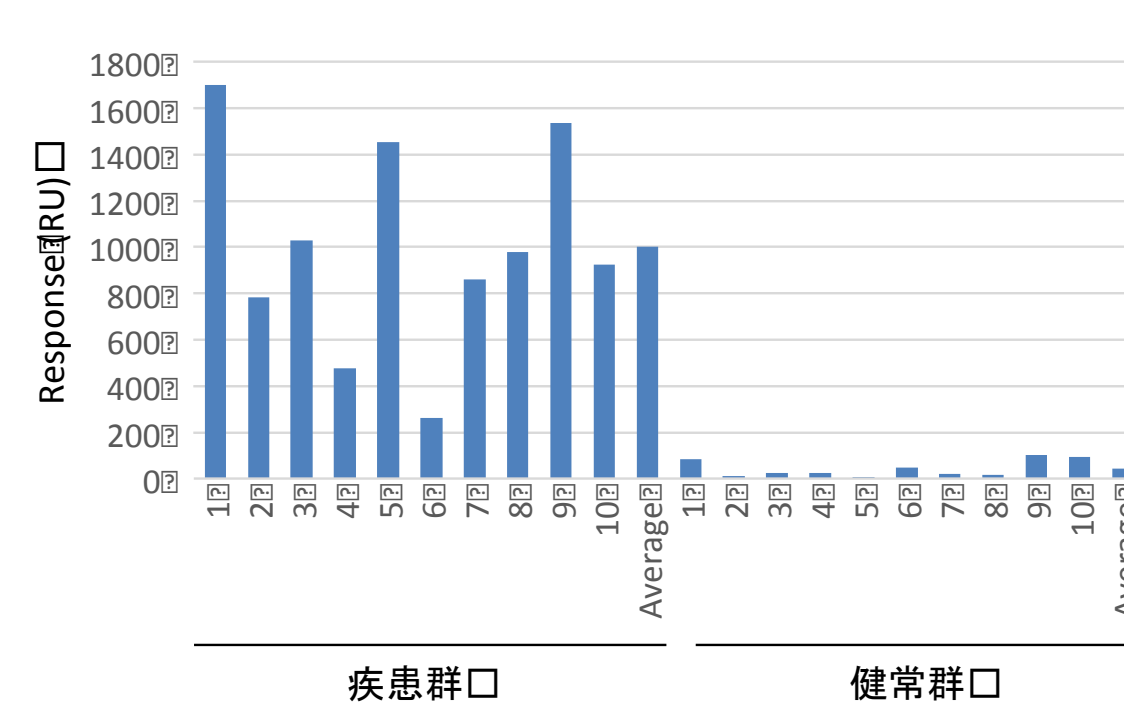
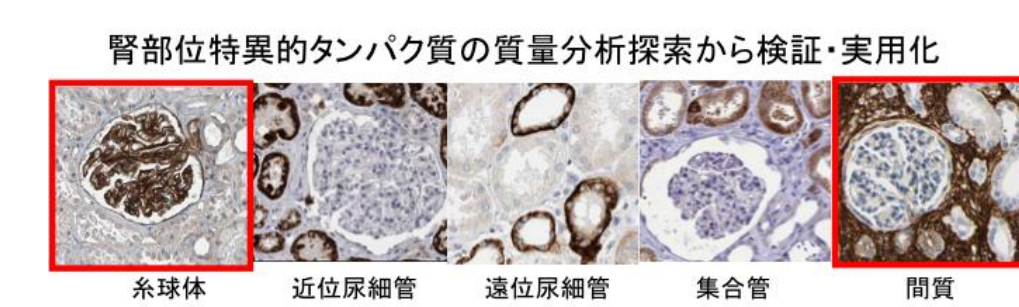
### Workflow of analysis



At healthy

- 3000~ proteins were identified and quantified
- All the data were set to database

### Results



Rank	Pathway	Count	P-Value
1	Lysosome	24	1.6E-07
2	Endocytosis	37	2.1E-07

Rank	Pathway	Count	P-Value
1	Endocytosis	33	1.6E-07
2	Biosynthesis of antibiotics	28	5.3E-07

得られるシグナルによりバイオマーカーの定量検出が可能

ナノミストサウナにおいて、新陳代謝の活性に関わるパスウェイが亢進していた

Biomarker for kidney disease

Grasp the health situation

Application field: Health check, Medical check, Diagnosis, Biomarker

Contact Niigata University

TEL: 025-262-7554 FAX: 025-262-7513 E-mail: onestop@adm.niigata-u.ac.jp