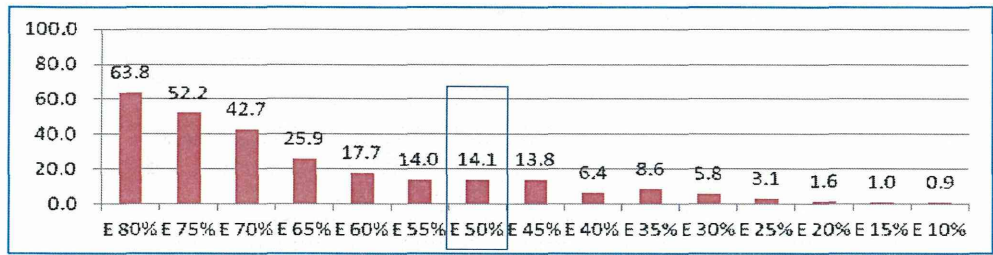
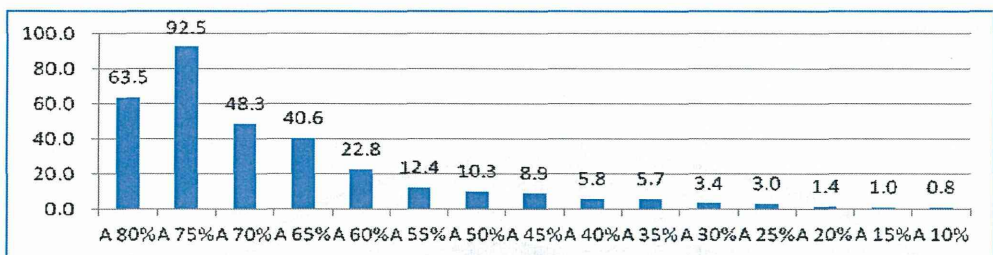


図5 異なる有機溶媒濃度によるタンパク回収率の変化



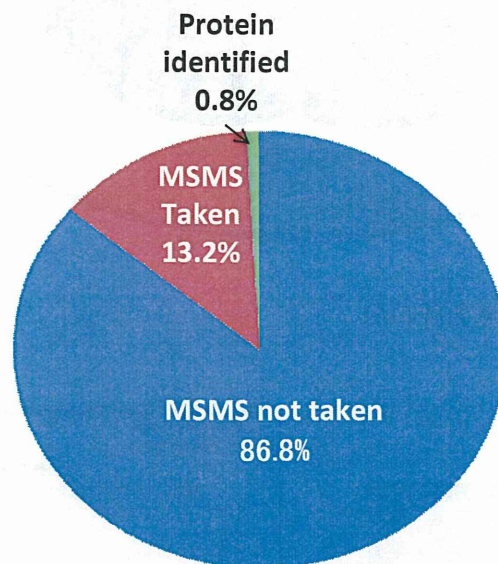
Ethanol

14.1% of protein recovered by Ethanol 50% Precipitation



Acetone

図6 MS/MS データを取得したペプチドおよび同定結果が得られたペプチドの割合



MSMS not taken	301764	86.8
MSMS taken	45858	13.2
Protein identified	2861	0.8
Total Peptide Peaks	347622	

n=47

図7 得られたプロテオームデータの主成分分析

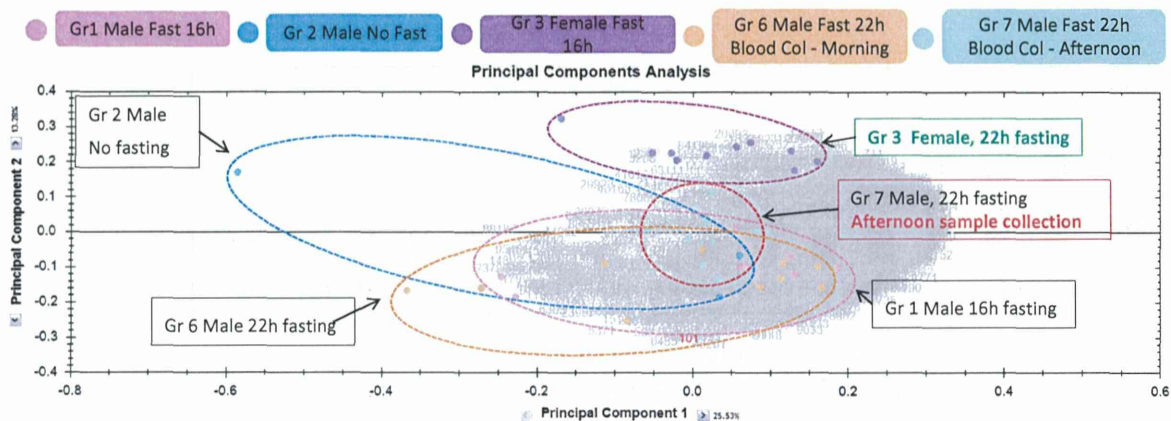


図8 雄および雌にて同定されたタンパク質とその重なり

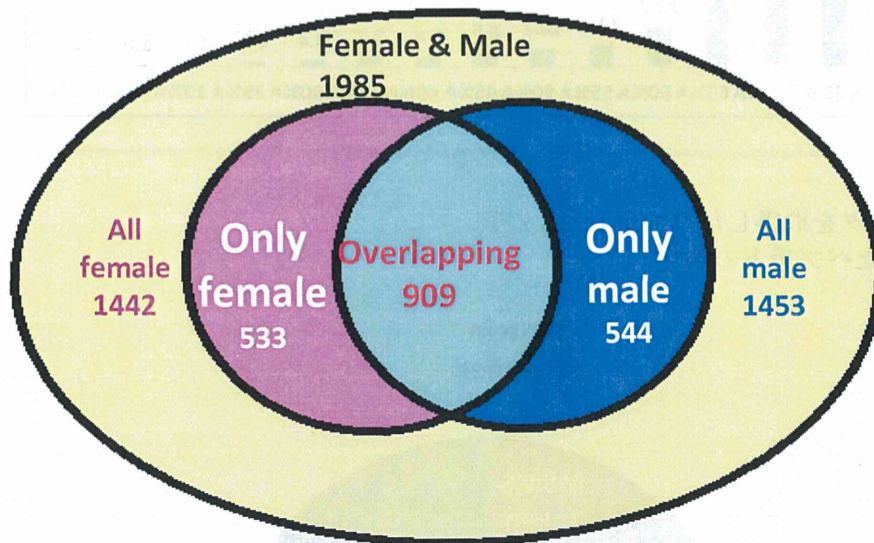
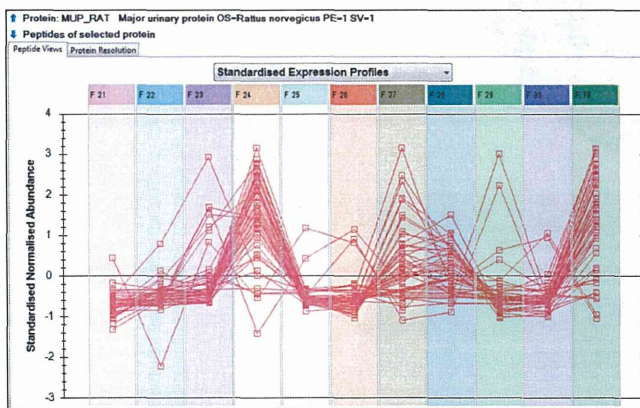
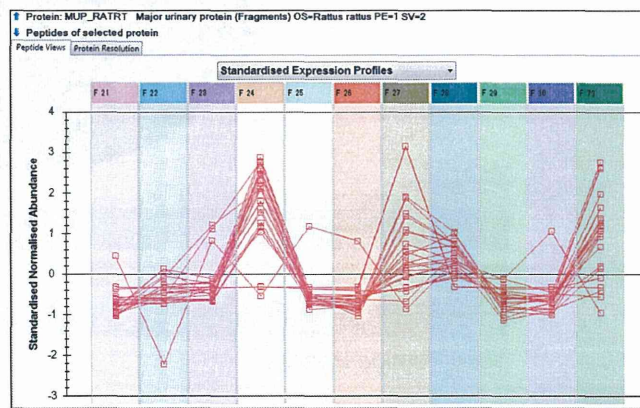


図9 雌ラットにおけるMUPタンパク質発現の個体差



Major urinary protein - MUP



Major urinary protein – MUP (Fragments)

図 10 ラット尿プロテオーム解析全データの主成分分析

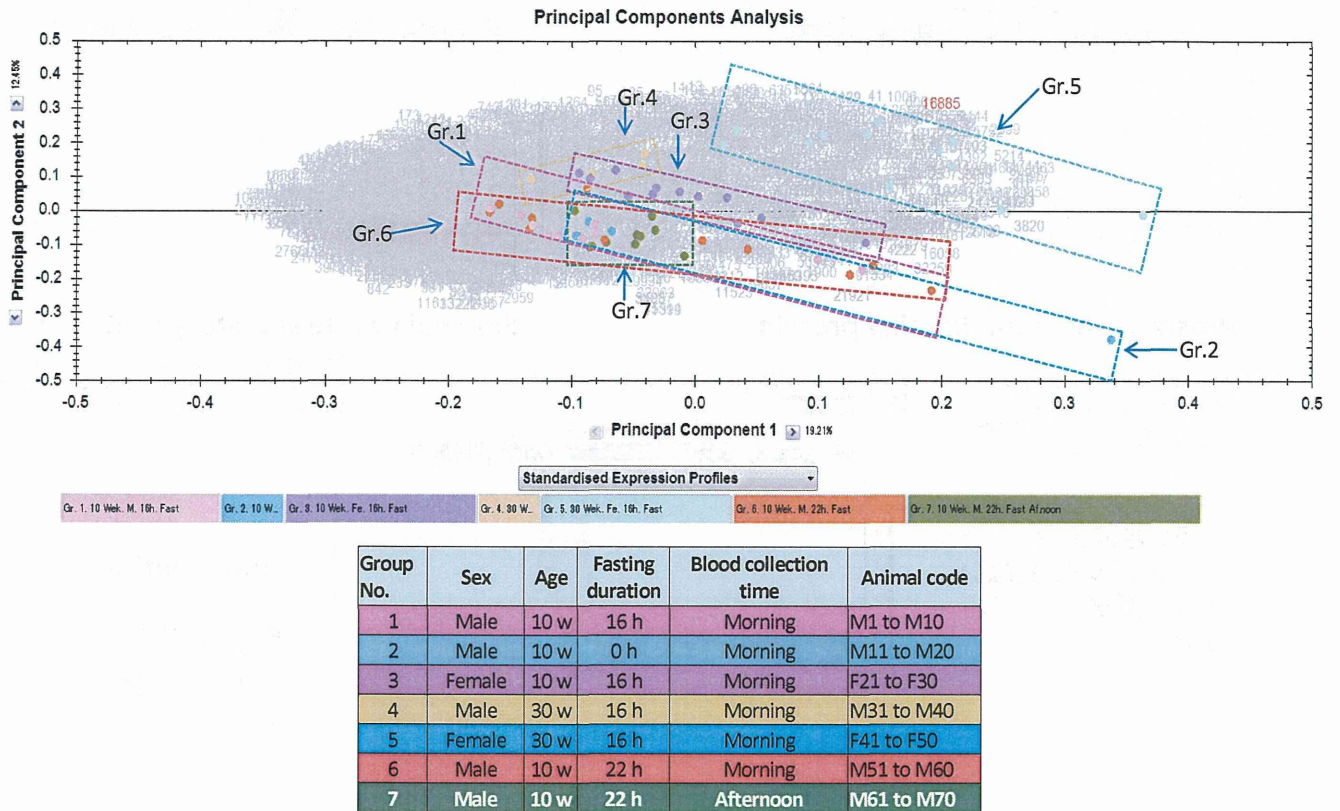


図 11 30週齢雌雄ラット尿サンプルの解析データの主成分分析

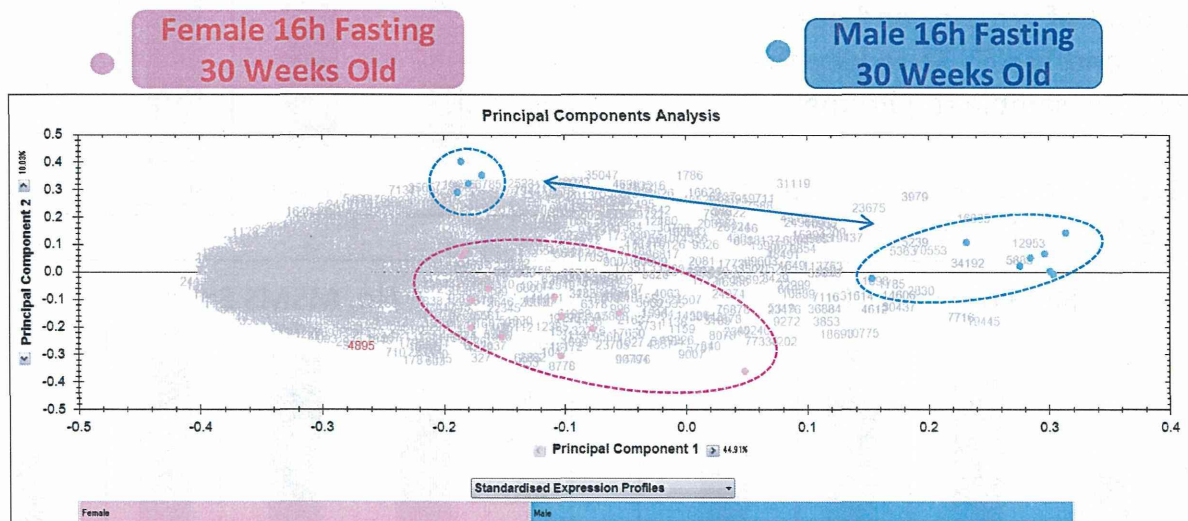
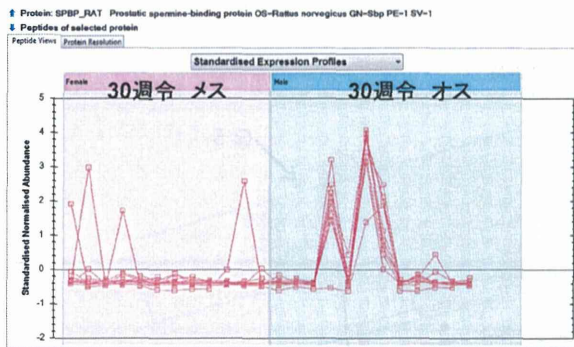


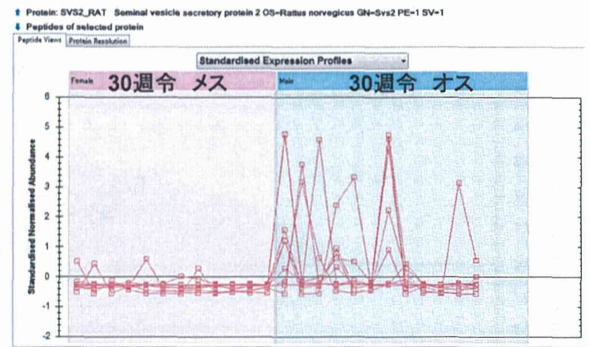
図 12 30 週齢雄ラットにおいてばらつきの原因となったタンパク質の同定



Prostatic spermine-binding protein

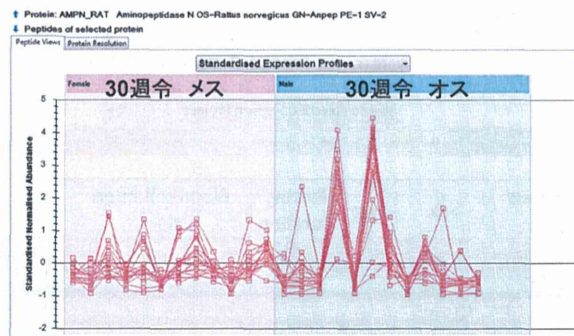
Spermine-binding protein is an androgen regulated ventral prostate glycoprotein that binds various polyamines

バラつきの要因となっていたタンパク質はいずれも精子(精液)に関係



Seminal vesicle secretory protein 2

The rat seminal vesicle contains six major androgen-dependent secretory proteins. The SVS II protein is a major component of the rat copulatory plug.



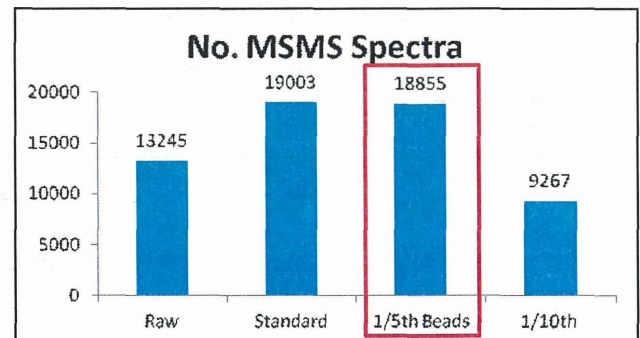
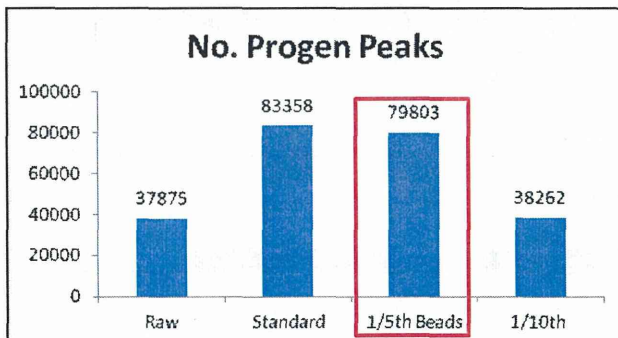
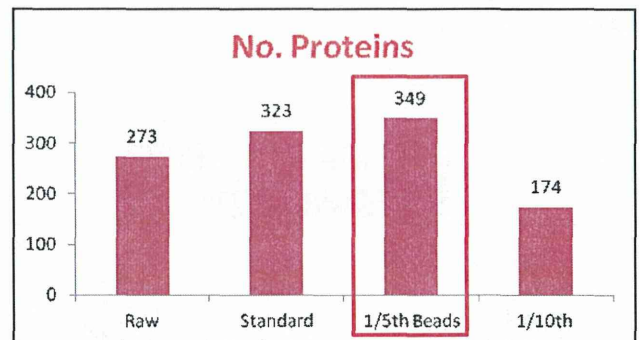
Aminopeptidase N

Plays a role in the final digestion of peptides generated from hydrolysis of proteins by gastric and pancreatic proteases.

図 13 ヒト血清に対する ProteoMiner 処理の影響

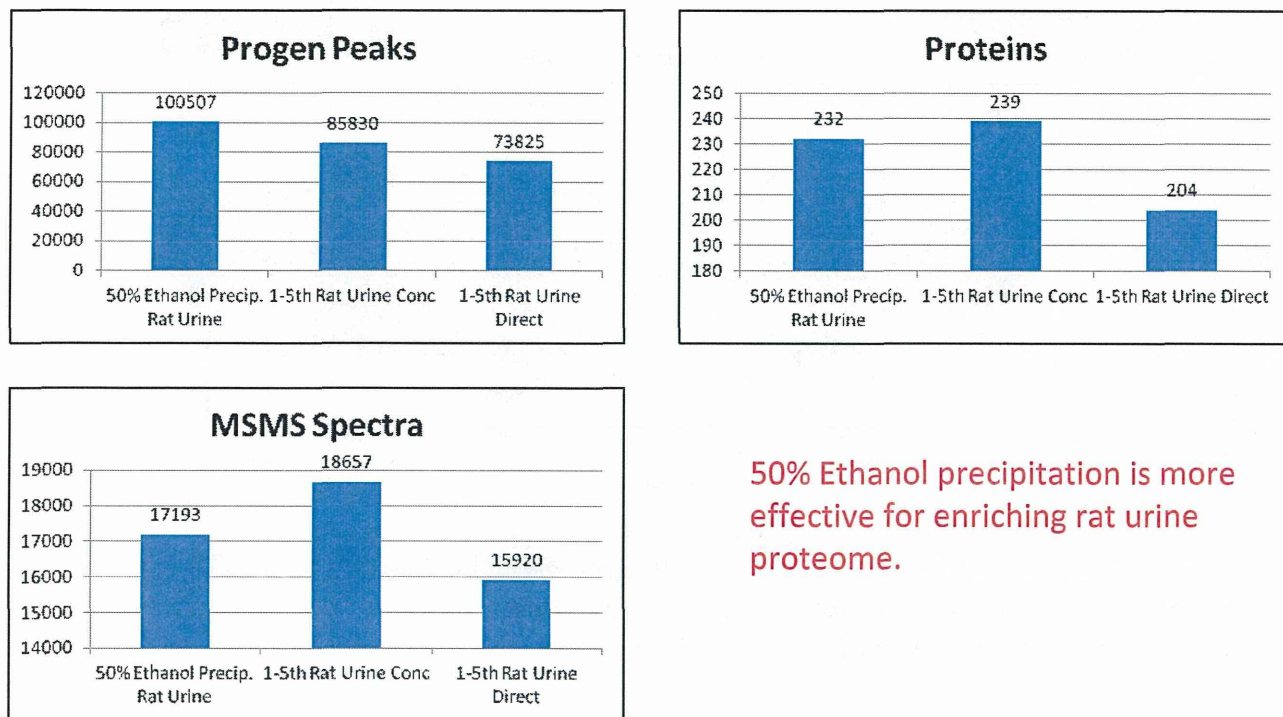
Trials were conducted with ProteoMiner with reduced amount of proteins and beads – 1/5th and 1/10th. To reduce the cost and sample requirement

1/5th amount was found to be effective for human serum



通常法(アセトン沈殿)に比べて、検出できる血清ペプチドの数が増加

図 14 ラット尿サンプルに対する ProteoMiner 処理の影響



50% Ethanol precipitation is more effective for enriching rat urine proteome.

ラット尿に関しては我々が開発した50%エタノールによる方法のほうが有効

図 15 ヒト尿サンプルプロテオーム解析データの主成分分析

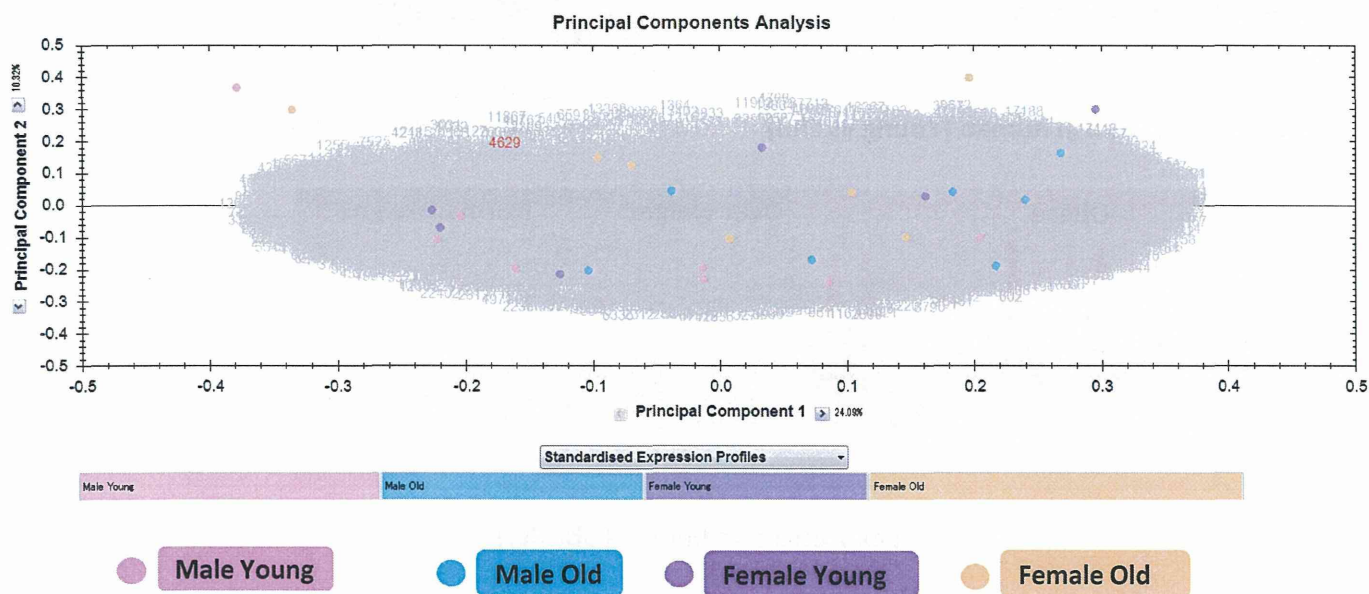


図 16 肥満度によるヒト尿サンプルプロテオーム解析データの主成分分析結果の評価

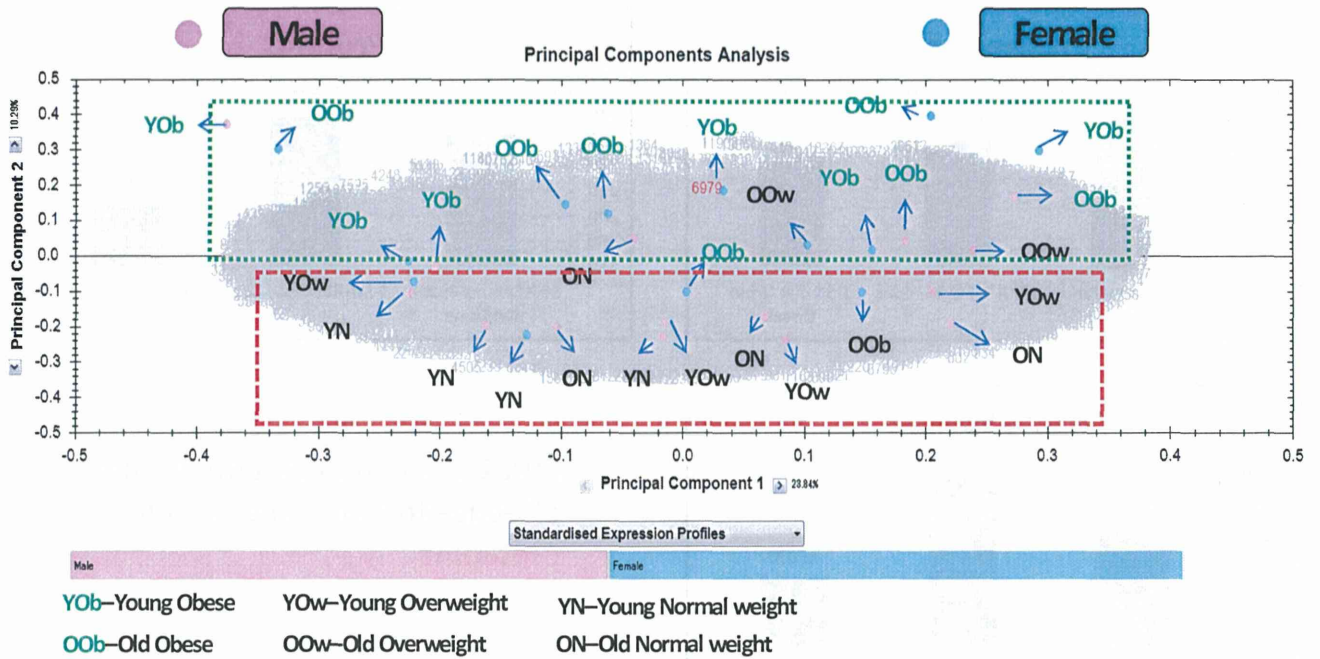


図 17 ヒトおよびラット尿中のアルブミン発現量の比較

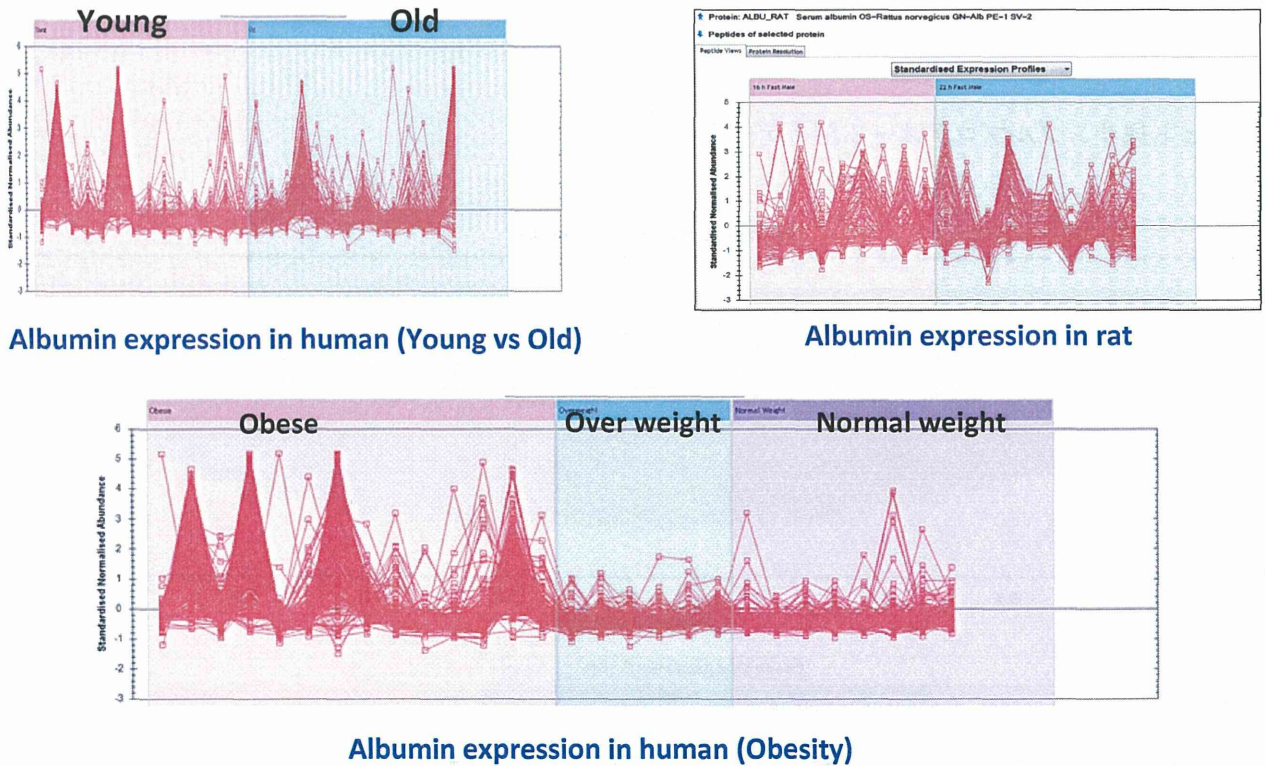
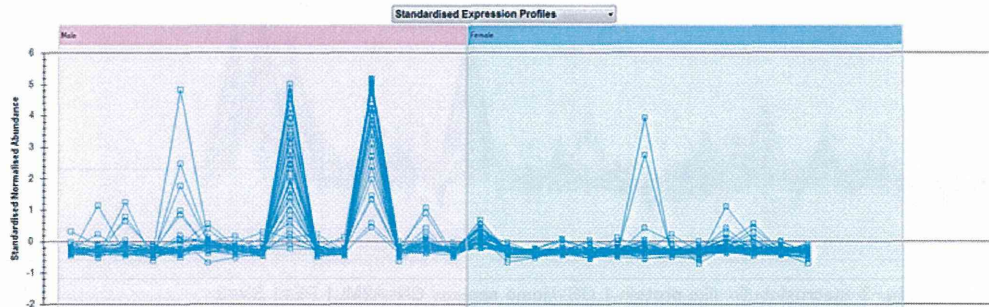


図 18 ヒト尿中の男性特異的なタンパク質

Up regulated Proteins (15) in Male Samples



1	Glutamyl aminopeptidase OS=Homo sapiens GN=ENPEP PE=1 SV=3
2	Bromodomain testis-specific protein OS=Homo sapiens GN=BRDT PE=1 SV=4
3	Catalase OS=Homo sapiens GN=CAT PE=1 SV=3
4	Protein FAM198B OS=Homo sapiens GN=FAM198B PE=2 SV=1
5	Keratin, type I cuticular Ha1 OS=Homo sapiens GN=KRT31 PE=2 SV=3
6	Keratin, type I cuticular Ha4 OS=Homo sapiens GN=KRT34 PE=2 SV=2
7	Keratin, type II cuticular Hb1 OS=Homo sapiens GN=KRT81 PE=1 SV=3
8	Keratin, type II cuticular Hb3 OS=Homo sapiens GN=KRT83 PE=1 SV=2
9	Keratin, type II cuticular Hb5 OS=Homo sapiens GN=KRT85 PE=1 SV=1
10	Keratin, type II cuticular Hb6 OS=Homo sapiens GN=KRT86 PE=1 SV=1
11	Keratin, type I cuticular Ha3-I OS=Homo sapiens GN=KRT33A PE=2 SV=2
12	Keratin, type I cuticular Ha3-II OS=Homo sapiens GN=KRT33B PE=2 SV=3
13	Low-density lipoprotein receptor OS=Homo sapiens GN=LDLR PE=1 SV=1
14	Myosin-13 OS=Homo sapiens GN=MYH13 PE=1 SV=2
15	Tyrosine-protein phosphatase non-receptor type substrate 1 OS=Homo sapiens

- 8 of the 15 proteins were keratin.
- Men has more keratin!

図 19 ヒト尿中の女性特異的なタンパク質

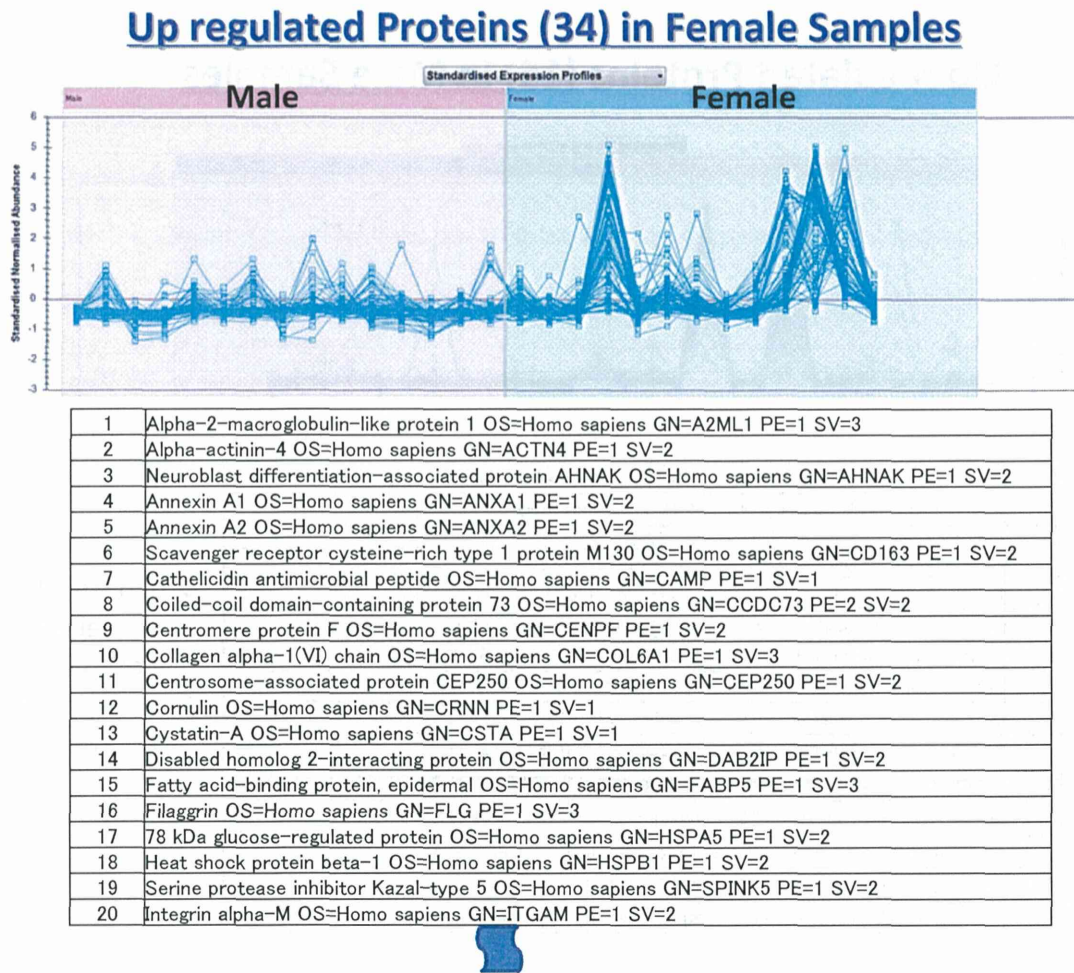
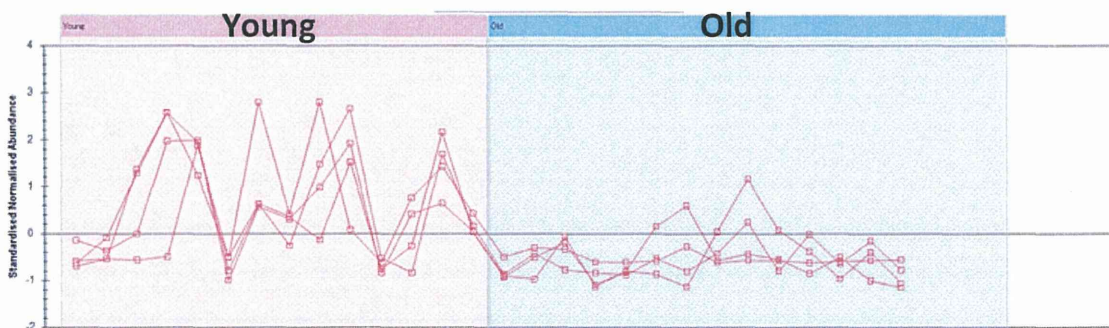


図 20 ヒト尿中の年齢差特異的なタンパク質



Protein expression pattern between young and old human were similar and fewer peptides/proteins could be related to.

1	CD59 glycoprotein
2	Interferon-induced protein with tetratricopeptide repeats 2
3	Multimerin-1 OS=Homo sapiens
4	Sulfhydryl oxidase 1

図 21 ヒト尿中の肥満度特異的タンパク質

Up Regulated Proteins (~ 460) in Obese Samples

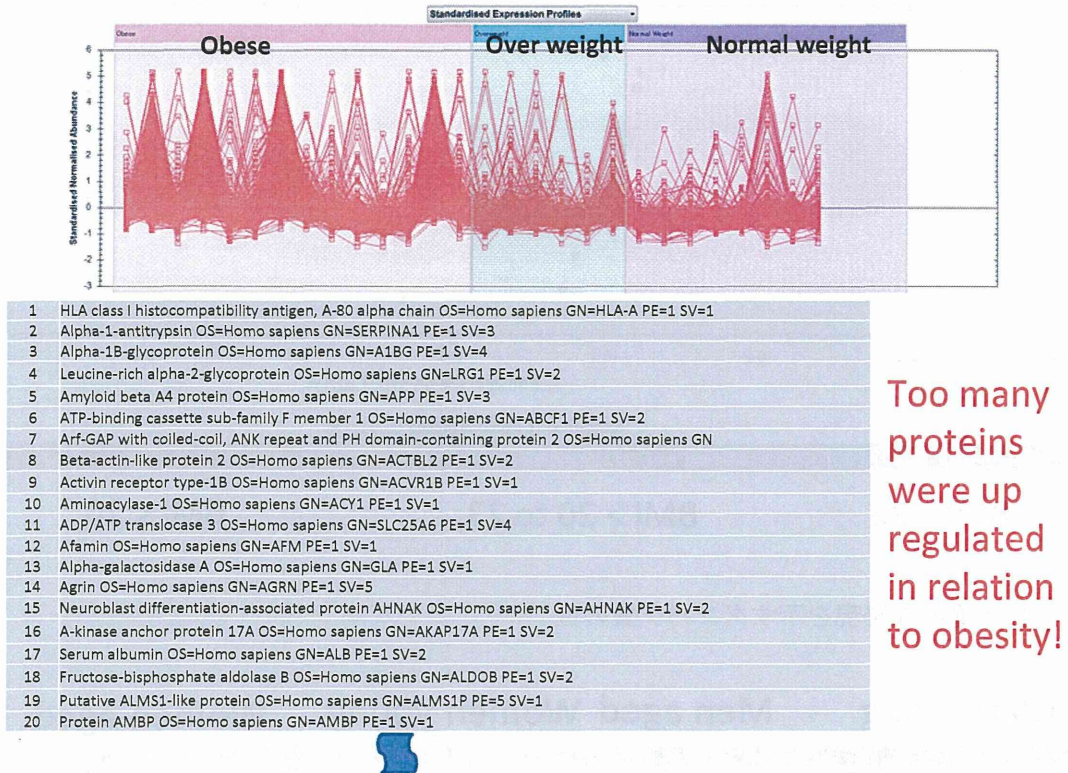


図 22 同定されたタンパク質の発現情報に基づく全サンプルの主成分分析

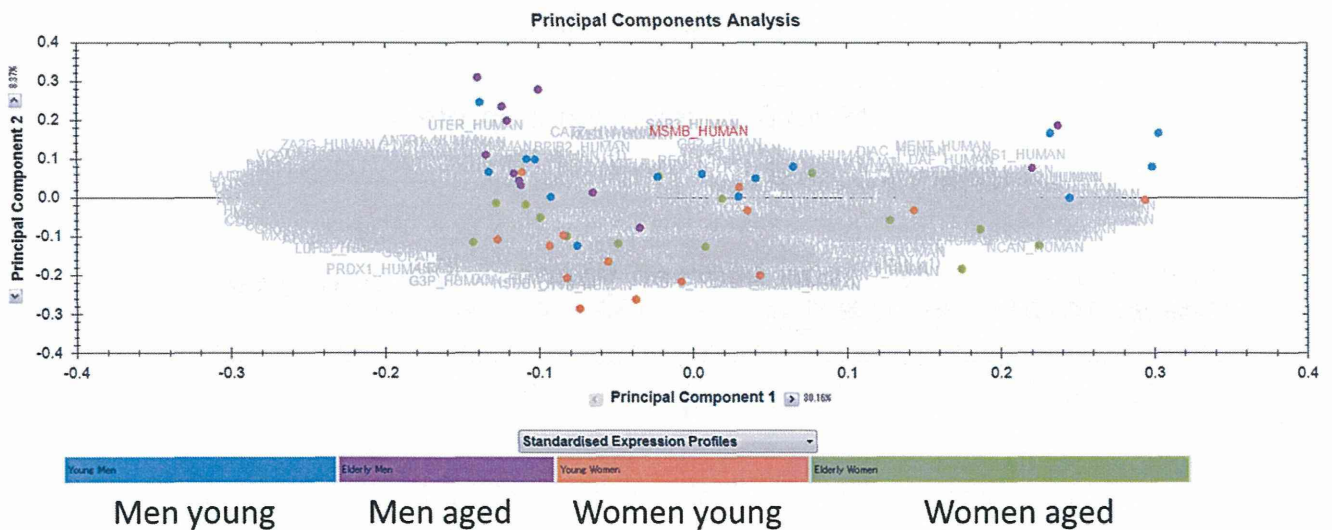


図 23 主成分分析における肥満度によるクラス分けの影響

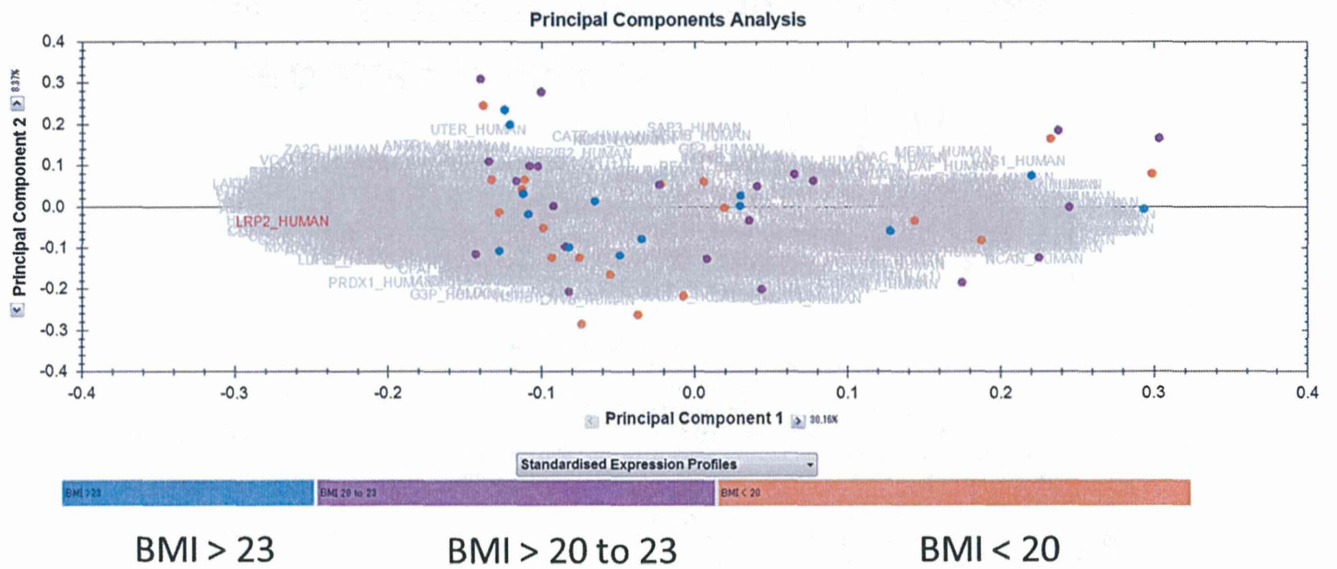


図 24 男性特異的な発現を示すタンパク質の例

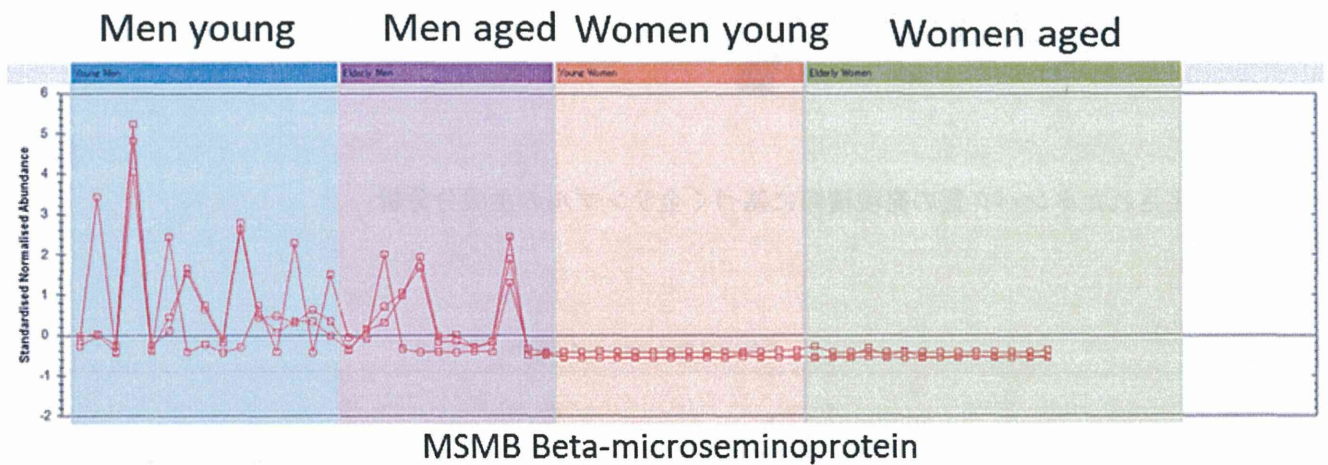


図 25 女性特異的な発現を示すタンパク質の例

