Figure 1

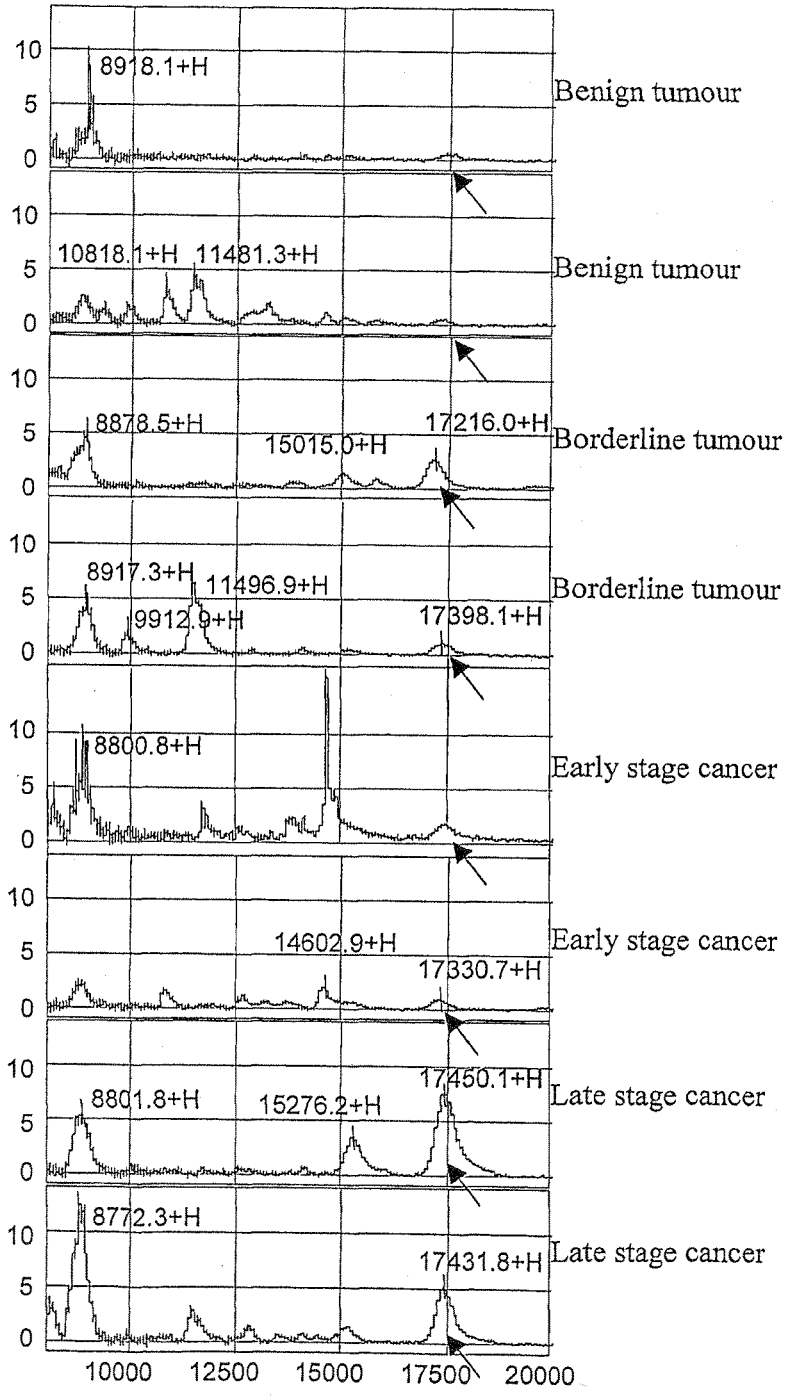

8918.1+H
Benign tumour
10818.1+H
11481.3+H
Benign tumour
8878.5+H
15015.0+H
17216.0+H
Borderline tumour
8917.3+H
11496.9+H
9912.9+H
17398.1+H
Borderline tumour
8800.8+H
Early stage cancer
14602.9+H
17330.7+H
Early stage cancer
8801.8+H
15276.2+H
17450.1+H
Late stage cancer
8772.3+H
17431.8+H
Late stage cancer
10
5
0
10000
12500
15000
17500
20000

Figure 2

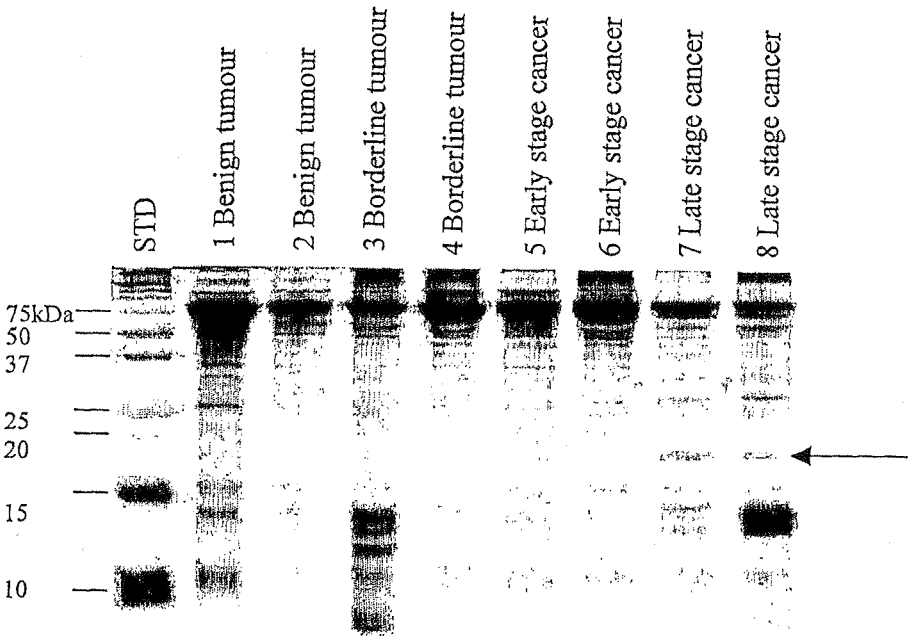

STD
1 Benign tumour
2 Benign tumour
3 Borderline tumour
4 Borderline tumour
5 Early stage cancer
6 Early stage cancer
7 Late stage cancer
8 Late stage cancer
75kDa
50
37
25
20
15
10

Figure 3

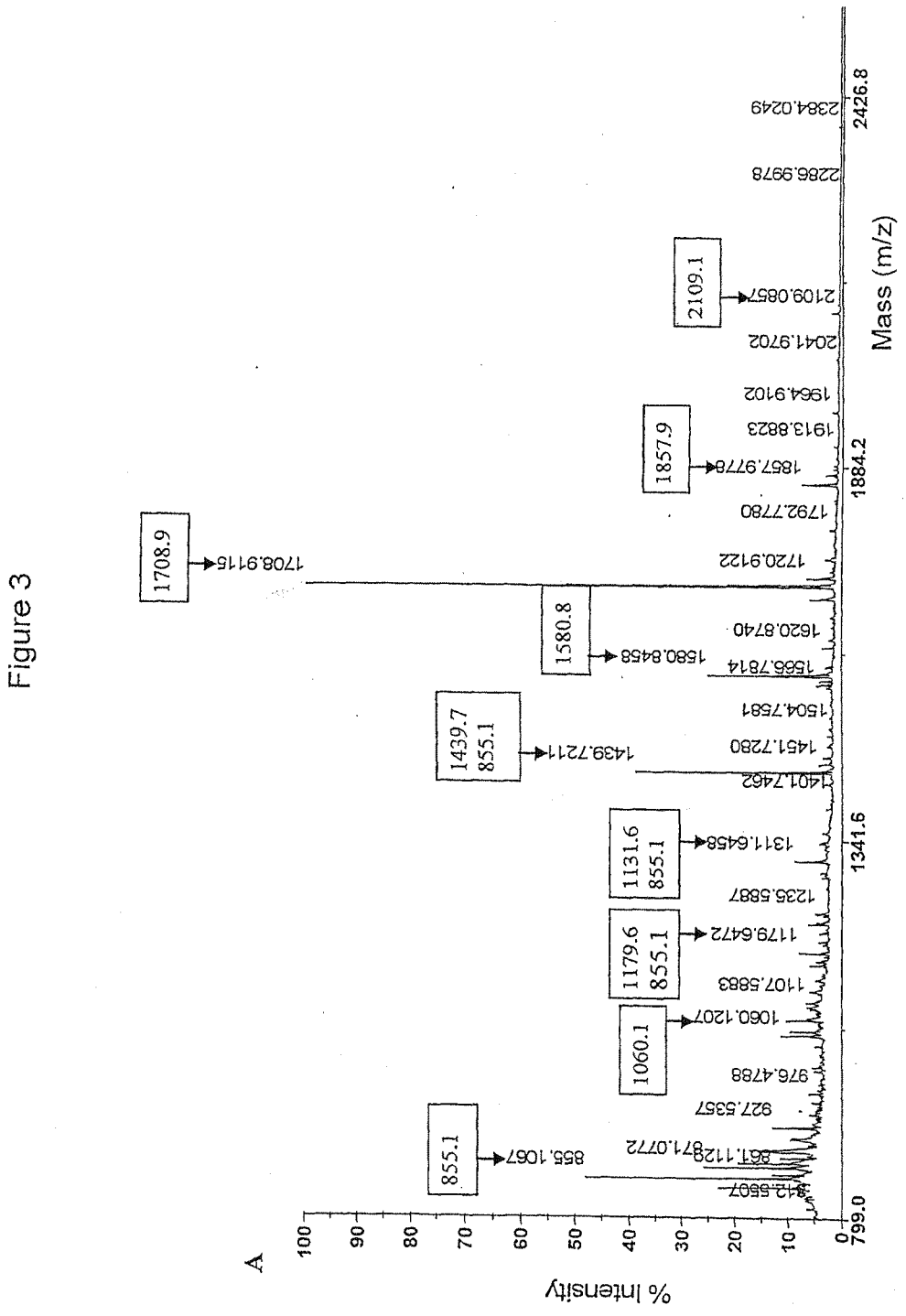

A
% Intensity
Mass (m/z)
799.0
1341.6
1884.2
2426.8
855.1
1060.1
1179.6
855.1
1131.6
855.1
1439.7
855.1
1580.8
1708.9
1857.9
2109.1
842.5507
861.1128
871.0772
855.1067
927.5357
976.4788
1060.1207
1107.5883
1179.6472
1235.5887
1311.6458
1401.7462
1451.7280
1504.7581
1566.7814
1580.8458
1620.8740
1720.9122
1708.9116
1792.7780
1857.9778
1913.8823
1964.9102
2041.9702
2109.0857
2286.9978
2384.0249

Figure 4

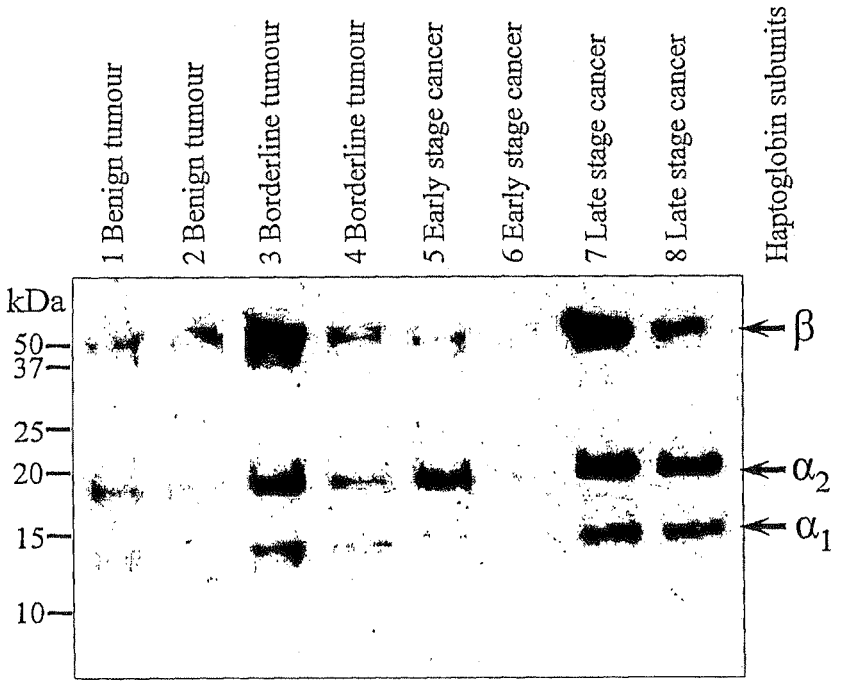

1 Benign tumour
2 Benign tumour
3 Borderline tumour
4 Borderline tumour
5 Early stage cancer
6 Early stage cancer
7 Late stage cancer
8 Late stage cancer
Haptoglobin subunits
kDa
50
37
25
20
15
10
β
α2
α1

Figure 5

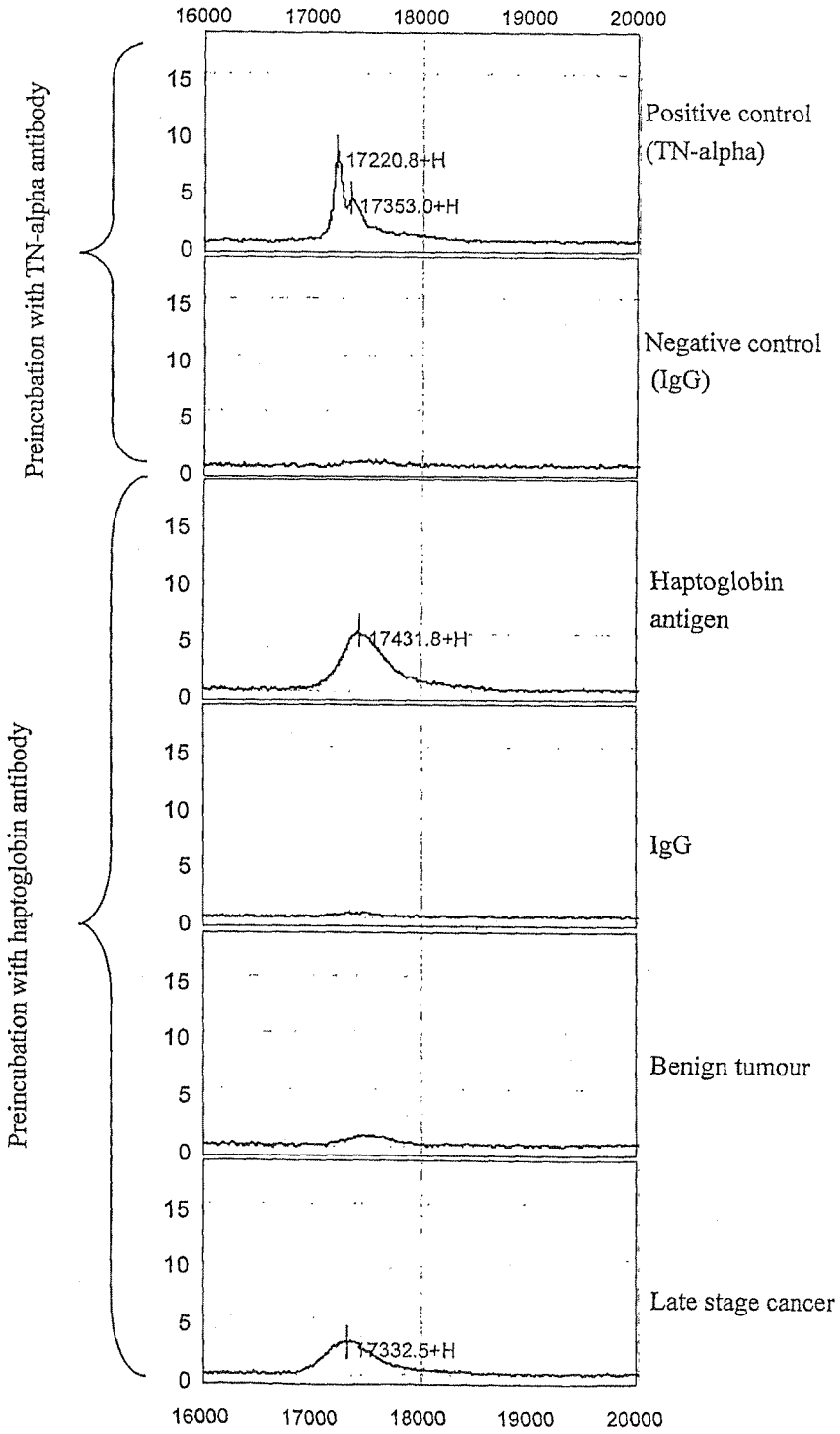
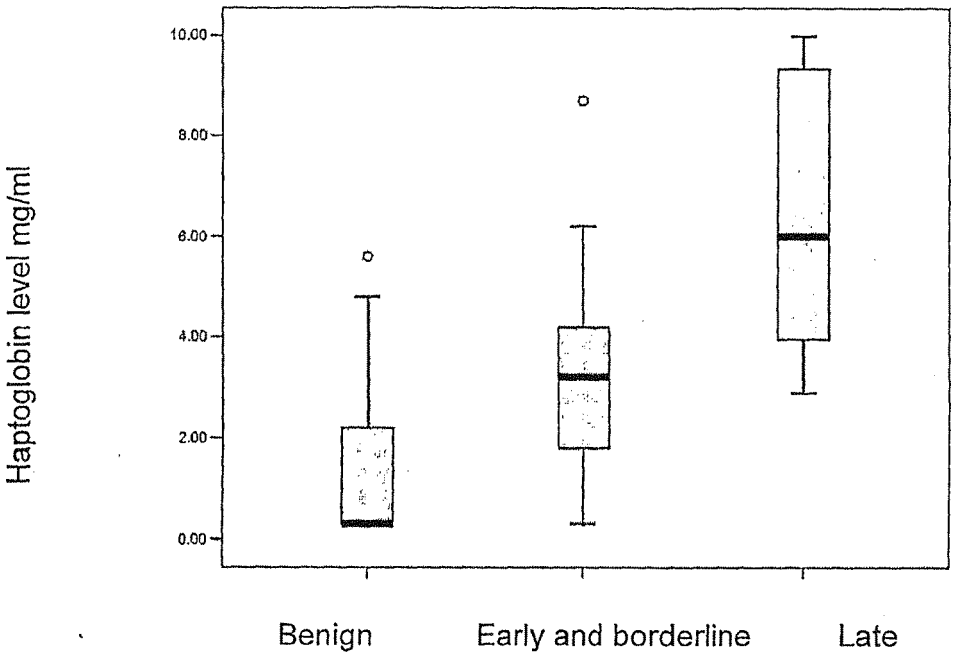

16000
17000
18000
19000
20000
Preincubation with TN-alpha antibody
Preincubation with haptoglobin antibody
Positive control (TN-alpha)
17220.8+H
17353.0+H
Negative control (IgG)
Haptoglobin antigen
17431.8+H
IgG
Benign tumour
Late stage cancer
17332.5+H
0
5
10
15

Figure 6

A


Haptoglobin level mg/ml
10.00
8.00
6.00
4.00
2.00
0.00
Benign
Early and borderline
Late

B

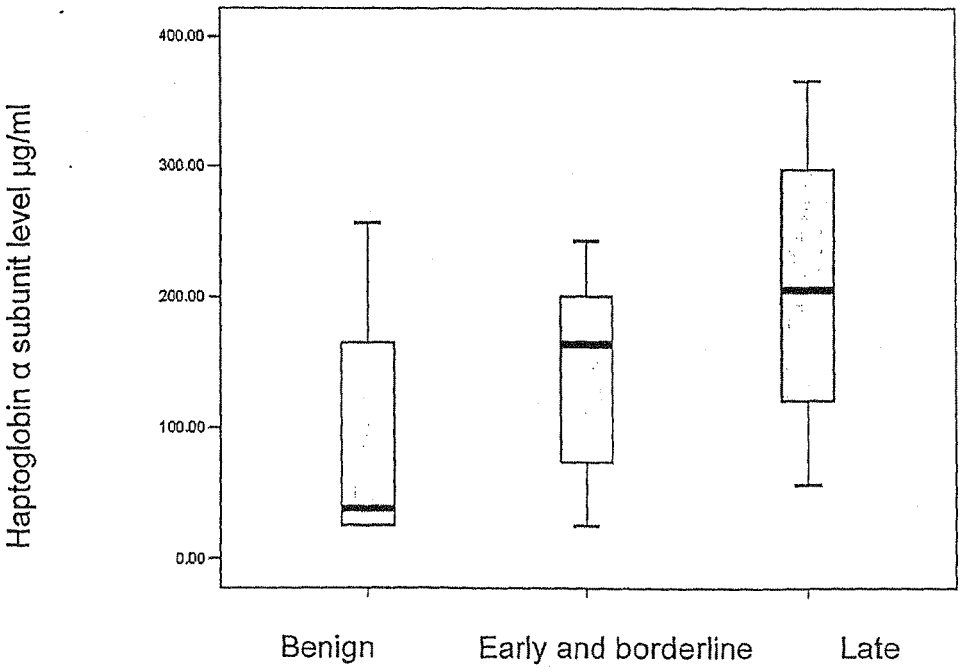

Haptoglobin α subunit level µg/ml
400.00
300.00
200.00
100.00
0.00
Benign
Early and borderline
Late

Figure 7

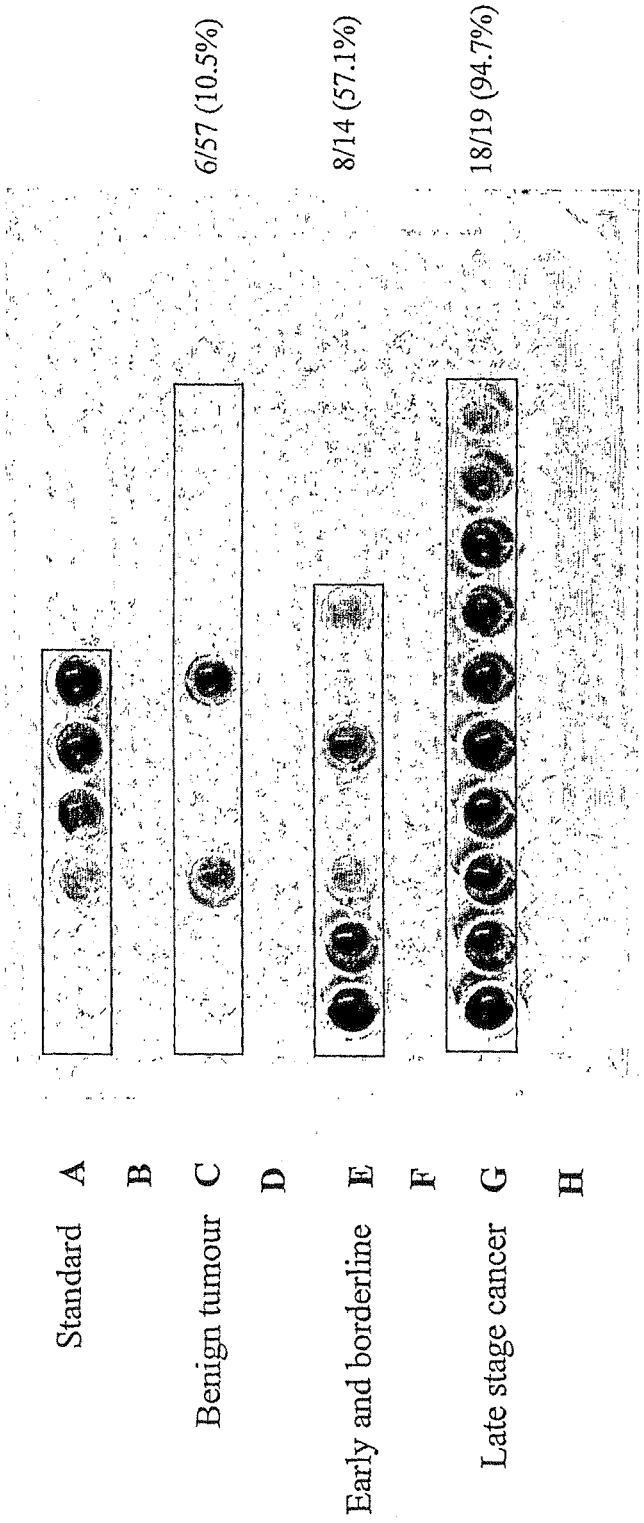

1 2 3 4 5 6 7 8 9 10
6/57 (10.5%)
8/14 (57.1%)
18/19 (94.7%)
A
B
C
D
E
F
G
H
Standard
Benign tumour
Early and borderline
Late stage cancer

Figure 8

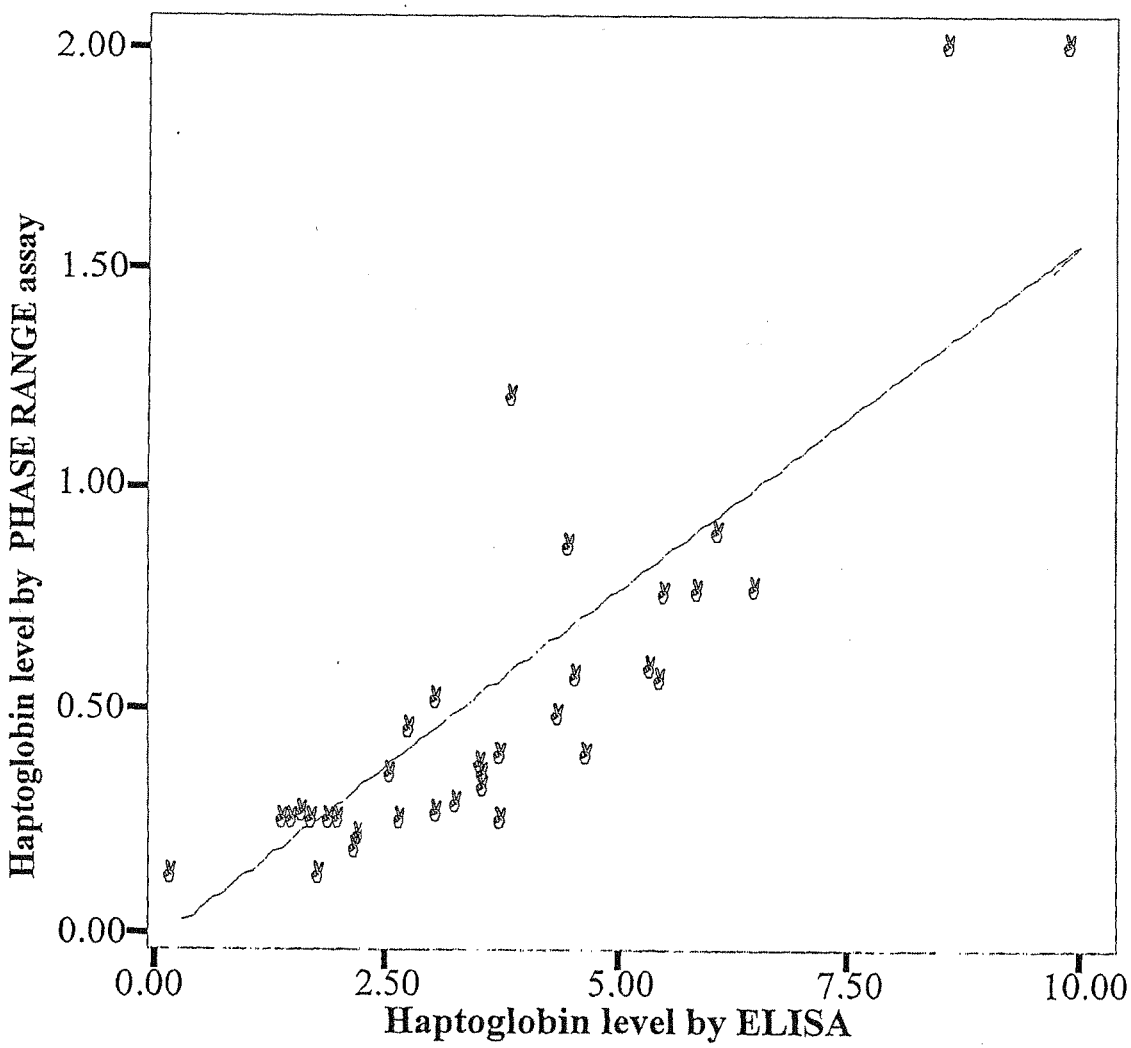
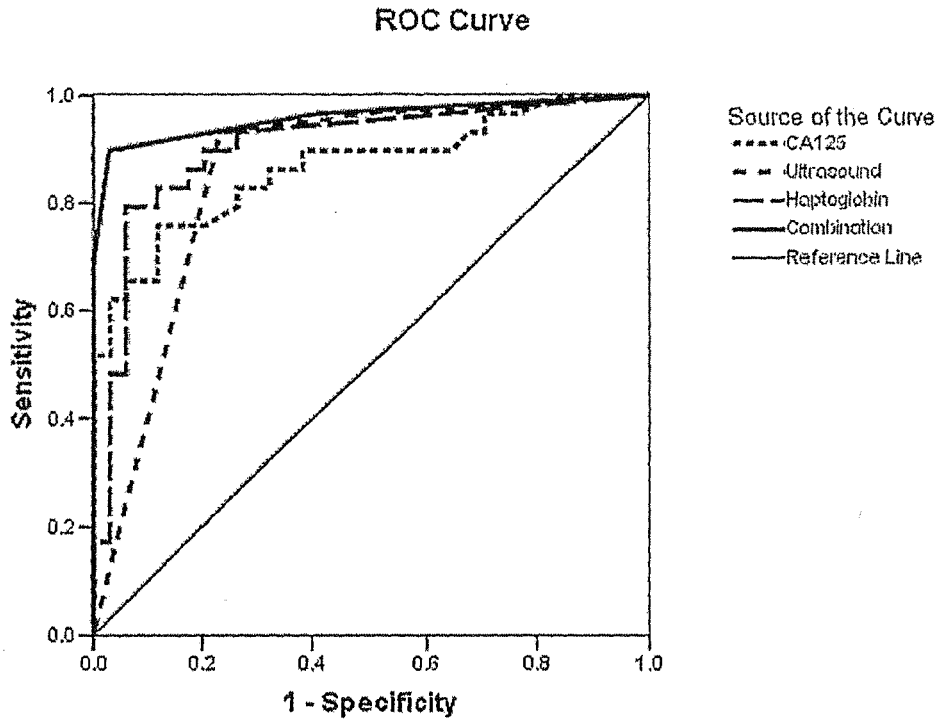

2.00
1.50
1.00
0.50
0.00
Haptoglobin level by PHASE RANGE assay
0.00
2.50
5.00
7.50
10.00
Haptoglobin level by ELISA

Figure 9


ROC Curve
Sensitivity
1 - Specificity
0.0
0.2
0.4
0.6
0.8
1.0
Source of the Curve
CA125
Ultrasound
Haptoglobin
Combination
Reference Line
Diagonal segments are produced by ties.

SEQUENCE LISTING

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<120> Diagnostic Biomolecules

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<150> SG 200605961-2
<151> 2006-09-05

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cggatatcgc agatgacggc tgcccgaagc cccccgagat tgcacatggc tatgtggagc 180

actcggttcg ctaccagtgt aagaactact acaaactgcg cacagaagga gatggagtat 240

acaccttaaa tgataagaag cagtggataa ataaggctgt tggagataaa cttcctgaat 300

gtgaagcaga tgacggctgc ccgaagcccc ccgagattgc acatggctat gtggagcact 360

cggttcgcta ccagtgtaag aactactaca aactgcgcac agaaggagat ggagtgtaca 420

ccttaaacaa tgagaagcag tggataaata aggctgttgg agataaactt cctgaatgtg 480

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atattgggct catcaaactc aaacagaagg tgtctgttaa tgagagagtg atgcccatct 840

gcctaccttc aaaggattat gcagaagtag ggcgtgtggg ttatgtttct ggctgggggc 900

gaaatgccaa ttttaaattt actgaccatc tgaagtatgt catgctgcct gtggctgacc 960

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35 40 45

Arg Tyr Gln Cys Lys Asn Tyr Tyr Lys Leu Arg Thr Glu Gly Asp Gly
50 55 60

Val Tyr Thr Leu Asn Asp Lys Lys Gln Trp Ile Asn Lys Ala Val Gly
65 70 75 80

Asp Lys Leu Pro Glu Cys Glu Ala Asp Asp Gly Cys Pro Lys Pro Pro
85 90 95

Glu Ile Ala His Gly Tyr Val Glu His Ser Val Arg Tyr Gln Cys Lys
100 105 110

Asn Tyr Tyr Lys Leu Arg Thr Glu Gly Asp Gly Val Tyr Thr Leu Asn
115 120 125

Asn Glu Lys Gln Trp Ile Asn Lys Ala Val Gly Asp Lys Leu Pro Glu
130 135 140

Cys Glu Ala Val Cys Gly Lys Pro Lys Asn Pro Ala Asn Pro Val Gln

145 150 155 160

Arg Ile Leu Gly Gly His Leu Asp Ala Lys Gly Ser Phe Pro Trp Gln
165 170 175

Ala Lys Met Val Ser His His Asn Leu Thr Thr Gly Ala Thr Leu Ile
180 185 190

Asn Glu Gln Trp Leu Leu Thr Thr Ala Lys Asn Leu Phe Leu Asn His
195 200 205

Ser Glu Asn Ala Thr Ala Lys Asp Ile Ala Pro Thr Leu Thr Leu Tyr
210 215 220

Val Gly Lys Lys Gln Leu Val Glu Ile Glu Lys Val Val Leu His Pro
225 230 235 240

Asn Tyr Ser Gln Val Asp Ile Gly Leu Ile Lys Leu Lys Gln Lys Val
245 250 255

Ser Val Asn Glu Arg Val Met Pro Ile Cys Leu Pro Ser Lys Asp Tyr
260 265 270

Ala Glu Val Gly Arg Val Gly Tyr Val Ser Gly Trp Gly Arg Asn Ala
275 280 285

Asn Phe Lys Phe Thr Asp His Leu Lys Tyr Val Met Leu Pro Val Ala
290 295 300

Asp Gln Asp Gln Cys Ile Arg His Tyr Glu Gly Ser Thr Val Pro Glu
305 310 315 320

Lys Lys Thr Pro Lys Ser Pro Val Gly Val Gln Pro Ile Leu Asn Glu
325 330 335

His Thr Phe Cys Ala Gly Met Ser Lys Tyr Gln Glu Asp Thr Cys Tyr
340 345 350

Gly Asp Ala Gly Ser Ala Phe Ala Val His Asp Leu Glu Glu Asp Thr
355 360 365

Trp Tyr Ala Thr Gly Ile Leu Ser Phe Asp Lys Ser Cys Ala Val Ala
370 375 380

Glu Tyr Gly Val Tyr Val Lys Val Thr Ser Ile Gln Asp Trp Val Gln
385 390 395 400

Lys Thr Ile Ala Glu Asn
405

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1 5 10 15

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<211> 142
<212> PRT
<213> Human

<400> 4

Val Asn Asp Ser Gly Asn Asp Val Thr Asp Ile Ala Asp Asp Gly Gln
1 5 10 15

Pro Pro Pro Lys Cys Ile Ala His Gly Tyr Val Glu His Ser Val Arg
20 25 30

Tyr Gln Cys Lys Asn Tyr Tyr Lys Leu Arg Thr Gln Gly Asp Gly Val
35 40 45

Tyr Thr Leu Asn Asn Glu Lys Gln Trp Ile Asn Lys Ala Val Gly Asp
50 55 60

Lys Leu Pro Glu Cys Glu Ala Asp Asp Gly Gln Pro Pro Pro Lys Cys
65 70 75 80

Ile Ala His Gly Tyr Val Glu His Ser Val Arg Tyr Gln Cys Lys Asn
85 90 95

Tyr Tyr Lys Leu Arg Thr Gln Gly Asp Gly Val Tyr Thr Leu Asn Asn
100 105 110

Glu Lys Gln Trp Ile Asn Lys Ala Val Gly Asp Lys Leu Pro Glu Cys
115 120 125

Glu Ala Val Gly Lys Pro Lys Asn Pro Ala Asn Pro Val Gln
130 135 140

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1 5 10

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1 5 10 15

Lys