

SUPPORTING INFORMATION

Selected Protein Monitoring in Histological Sections by Targeted MALDI-FTICR in-source decay Imaging

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A {*MATRIX*} {*SCIENCE*} Mascot Search Results

Protein View

Match to: gi|114199083 Score: 1002
myelin basic protein [Mus musculus]
Found in search of DATA.TXT

Nominal mass (M_r): 13806; Calculated pI value: 11.33
NCBI BLAST search of [gi|114199083](#) against nr
Unformatted [sequence string](#) for pasting into other applications

Taxonomy: [Mus musculus](#)

Variable modifications: Acetyl (Protein N-term)
No enzyme cleavage specificity
Sequence Coverage: 19%

Matched peptides shown in **Bold Red**

1 MASQKRPSQR SKYLATASTM DHARHGFLPR HRDTGILDSDI GRFFSGDRGA
51 PKRGSGKVPW LKQSRSPPLPS HARSRLGLCH MYKDSHTRIT HYGSLPQKSQ
101 HGRTQDENPV VHFFKNIVTP RT

B {*MATRIX*} {*SCIENCE*} Mascot Search Results

Protein View

Match to: gi|261278732 Score: 1581
Chain A, X-Ray Structure Of Monomeric Variant Of Hnp1
Found in search of DATA.TXT

Nominal mass (M_r): 3443; Calculated pI value: 8.68
NCBI BLAST search of [gi|261278732](#) against nr
Unformatted [sequence string](#) for pasting into other applications

Taxonomy: [Homo sapiens](#)
Links to retrieve other entries containing this sequence from NCBI Entrez:
[gi|261278733](#) from [Homo sapiens](#)

Variable modifications: Acetyl (Protein N-term)
No enzyme cleavage specificity
Sequence Coverage: 100%

Matched peptides shown in **Bold Red**

1 ACYCRIPACI AGERRYGTGX YQQQLWAFCC

Figure S1. Mascot search results for protein identification of MBP (A) and HNP-1 (B) using MALDI-FTICR ISD.
Sequence coverage of MBP and HNP-1 is indicated in red.

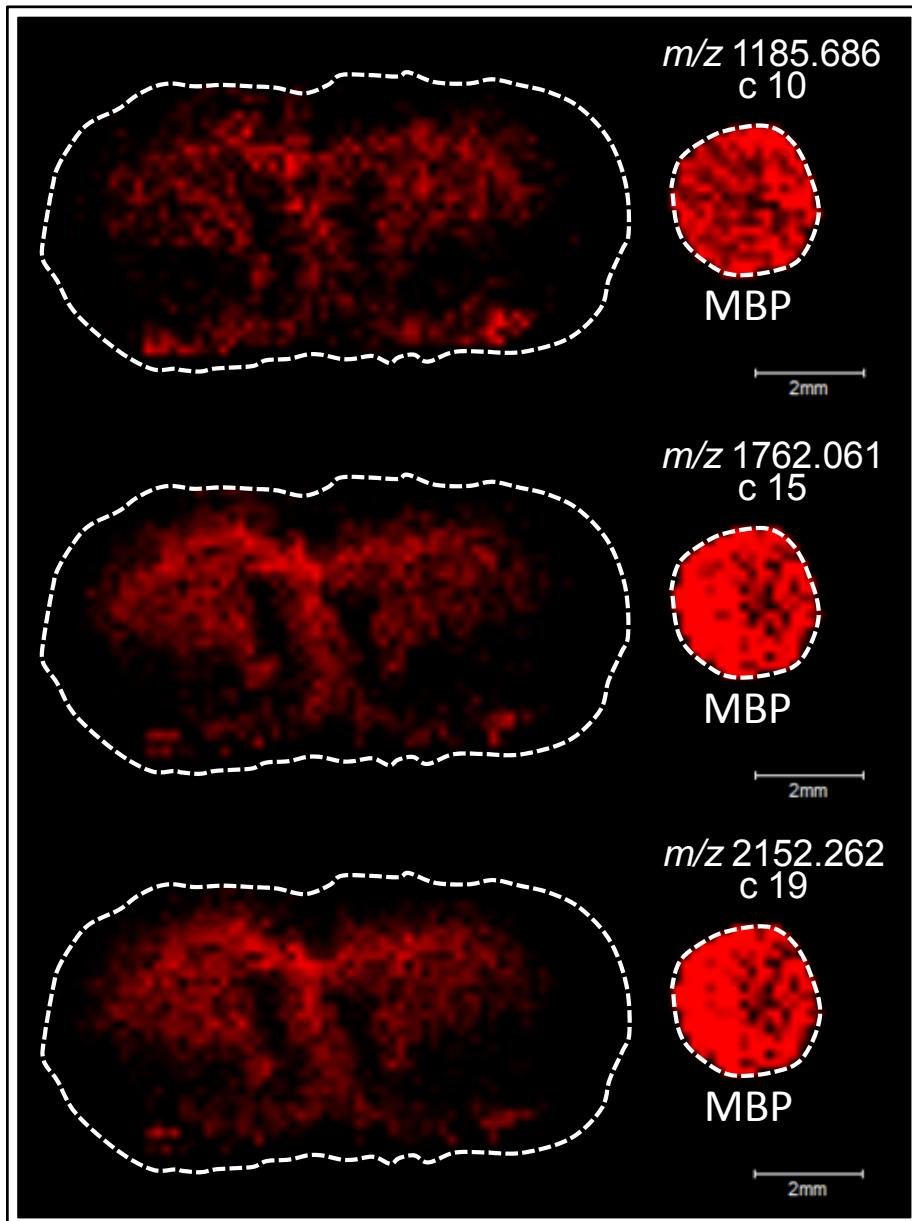


Figure S2. MALDI-FTICR ISD MSI on a mouse brain tissue section and a MBP pure solution.

Ion images correspond to the signal detected for three ISD ions of the MBP (c₁₀, c₁₅ and c₁₉).

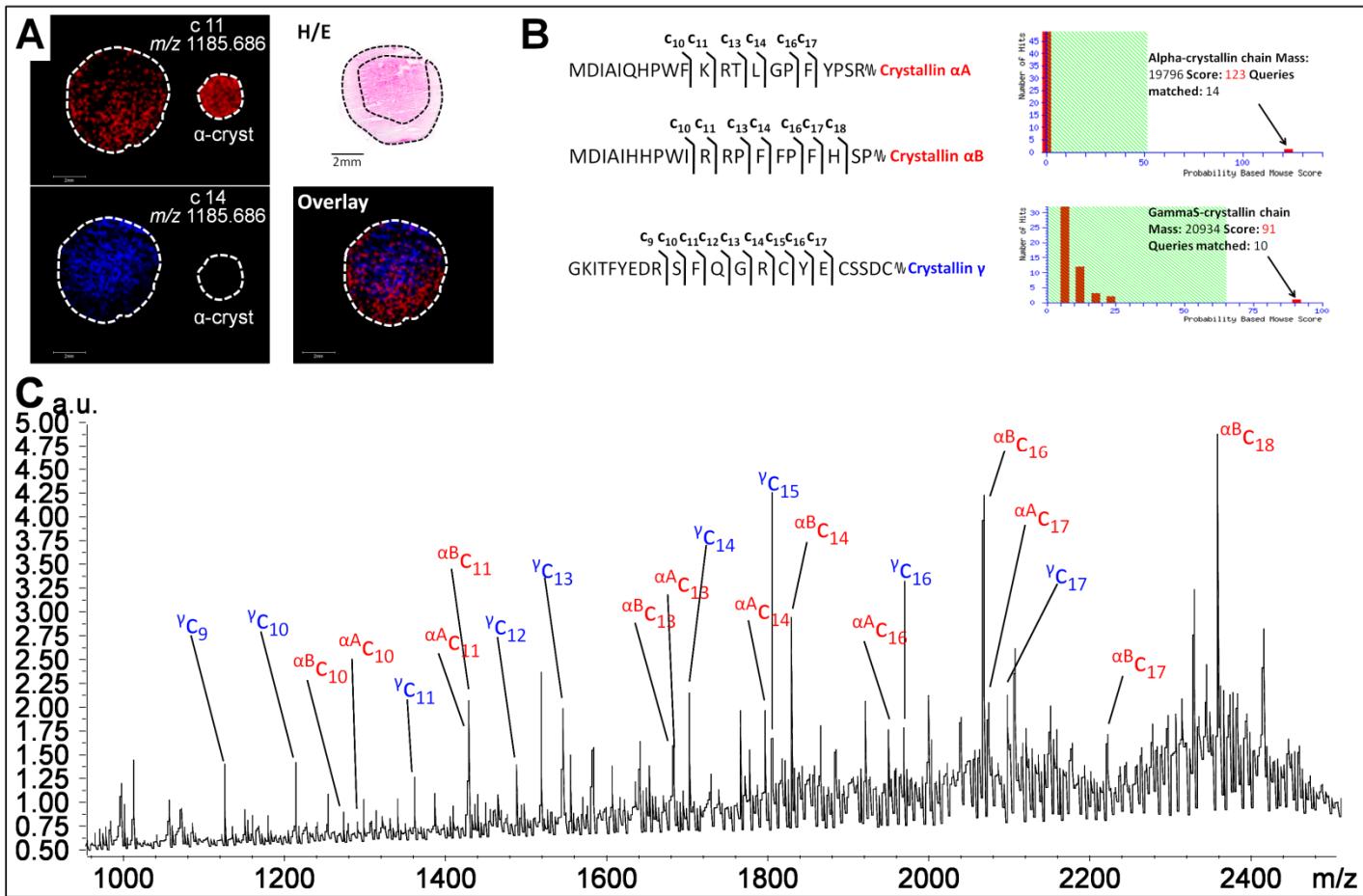


Figure S3. MALDI-FTICR ISD MSI of a porcine eye lens tissue section and a α A/B-crystallin spot.

- Left panels show ion images of ISD fragments of α B-crystallin (c_{11}) and γ -crystallin (c_{14}). Right panel shows H/E staining of a serial eye lens section and an overlay of the two ion images of left panel. Dotted lines delineate eye lens central part and periphery.
- Left part shows sequence coverage for α A/B-crystallin and γ -crystallin identification. Right part indicates Mascot search results for protein identification.
- Average mass spectrum corresponding to the MALDI-FTICR ISD MSI analysis of the porcine eye lens. ISD fragments of α A/B-crystallin (in red) and γ -crystallin (in blue) are annotated on the average mass spectrum.

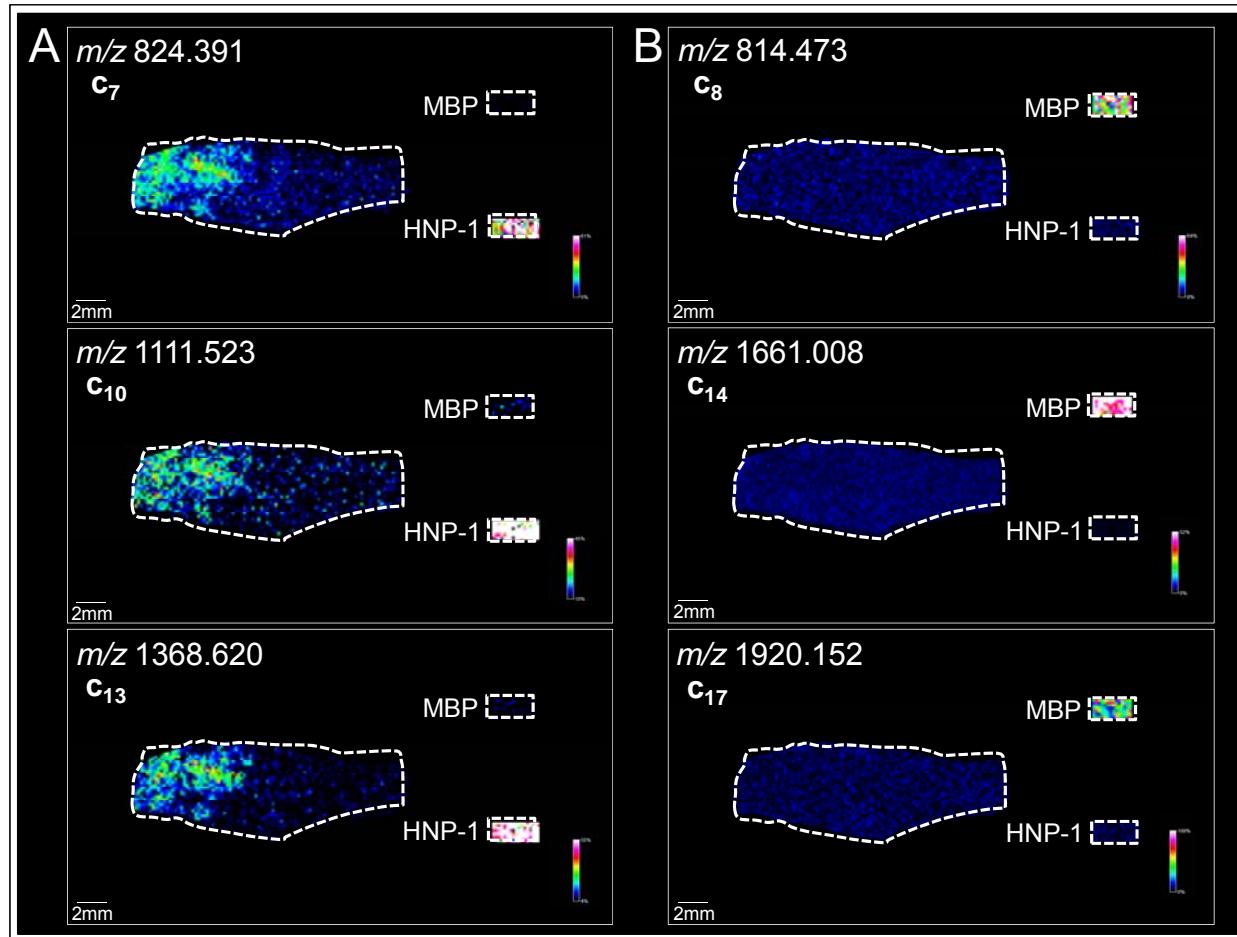


Figure S4. MALDI-FTICR ISD MSI on a liver with cancer liver metastasis tissue section and MBP and HNP-1 pure solutions.

A. Ion images corresponding to the signal detected for three ISD ions of HNP-1 (c_7 , c_{10} and c_{13}).

B. Ion images corresponding to the signal detected for three ISD ions of the MBP (c_8 , c_{14} and c_{17}).

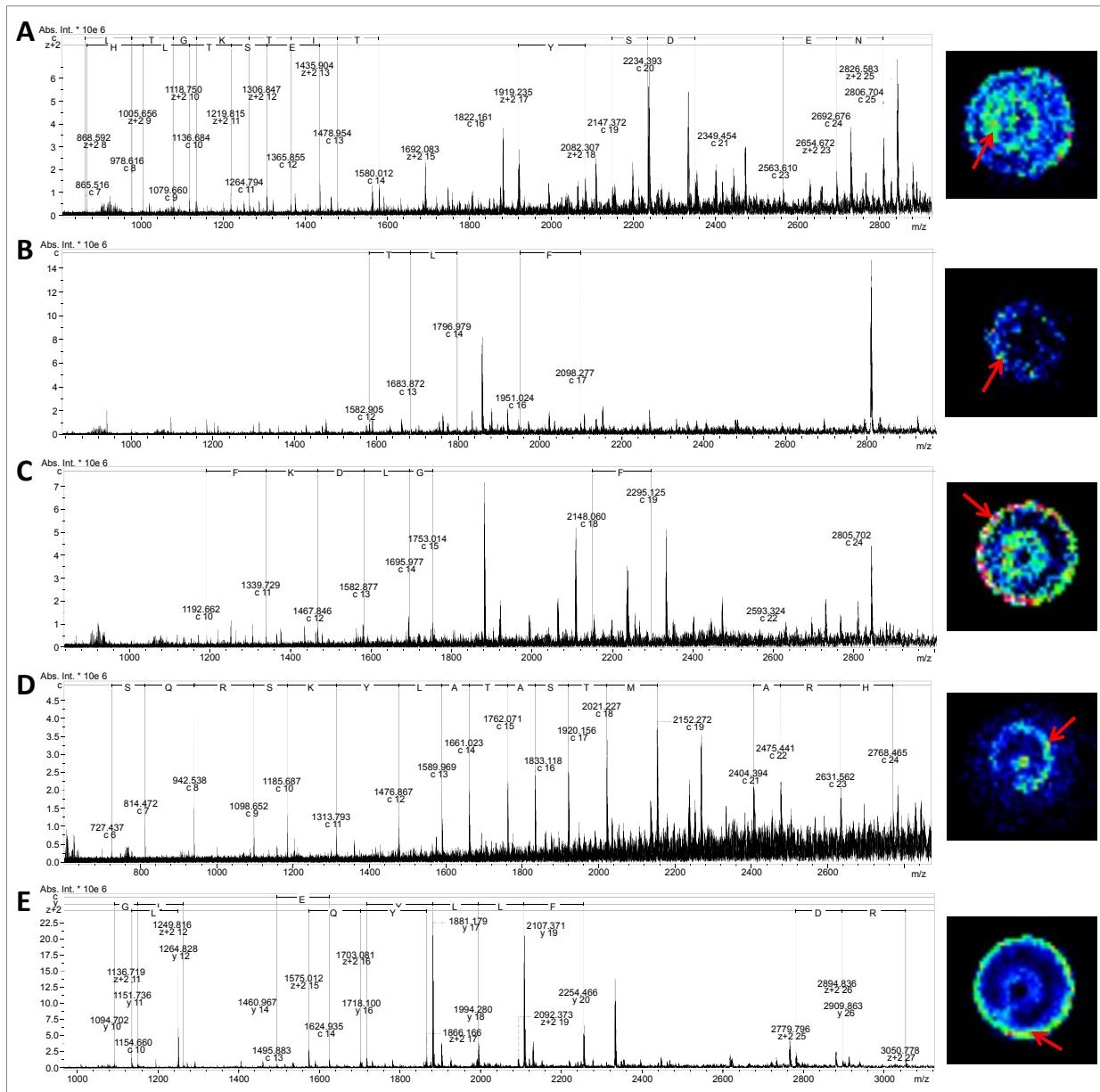


Figure S5. MALDI-FTICR ISD mass spectra of ubiquitin (A), α -crystallin (B), BSA (C), MBP (D) and β -casein (E) selected from the equimolar 5-proteins ion images.

Red arrows indicate pixels with maximum intensity selected for each ISD mass spectrum of each protein.

A {MATRIX} SCIENCE Mascot Search Results

Protein View

```

Match to: UBC_PIG Score: 242
Polyubiquitin-C OS=Sus scrofa GN=UBC PE=2 SV=1
Found in search of DATA.TXT

Nominal mass (Mr): 59956; Calculated pI value: 7.10
NCBI BLAST search of UBC\_PIG against nr
Unformatted sequence string for pasting into other applications

Taxonomy: Sus scrofa

Variable modifications: Acetyl (K), Phospho (ST)
No enzyme cleavage specificity
Sequence Coverage: 10%

Matched peptides shown in Bold Red

1 MQIQIVKVLTG KITILEVEPVS DTIENVRGKRI QKEKGIPPDQ QRLIFAGKQL
51 EDGRTLSDYN IQRESTLILV IRLRGGGMQF VRKLTGKTT LEVEPSDIE
101 NVKAKI1QDKR GIPPDQQRLL FAGKQLEDFGR TLSDYNIQKE STLHLVLRLR
151 GMG1QFVKTLL TGLGKTTLEVS KIQDREGIPF DQQQLIFAGK
201 QLEDGRILSD YNIGKESTLH LVLRLRGGMQ IFVKTLLGKTI ITILEVEPSDIE
251 IENVKAKI1QD REGIPDQQR LLIFAGKTTLEVS KESTLHVLR
301 LRGGMQFVFL TLIGKTTILEVS DPTDITENV KAKI1QDREGI PPDDQQLIFAF
351 GRQLEDFGRLL SDYNIQKEST LHVLRLRGGQ QRLIFAGKQL EDGRTLSDYN KITILEVEPVS
401 DTIENVKAKI1 QDREGIPDQQR LLIFAGKQL EDGRTLSDYN IQLKESTLHVLV
451 LRLGGGMQF VRKLTGKTT LEVEPSDIE NVKAKI1QDRE GIPPDQQRLL
501 FAGKQLEDFGR TLSDYNIQKE STLHLVLRLR GGF
  
```

B {MATRIX} SCIENCE Mascot Search Results

Protein View

```

Match to: CRYAA_BOVIN Score: 30
Alpha-crystallin A chain OS=Bos taurus GN=CRYAA PE=1 SV=1
Found in search of DATA.TXT

Nominal mass (Mr): 19778; Calculated pI value: 5.78
NCBI BLAST search of CRYAA\_BOVIN against nr
Unformatted sequence string for pasting into other applications

Taxonomy: Bos taurus

Variable modifications: Acetyl (Protein N-term)
No enzyme cleavage specificity
Sequence Coverage: 13%

Matched peptides shown in Bold Red

1 MDIAIQHPWF KRTLGPFPYS RLFDPQFFGEG LFYEYDLPFL SSTISPYYRQ
51 SLFRIVLDSG ISEVRSDRK FVFLDVKMF SPEDLTVKVQ EDFVEINGKH
101 NERQDDGYI SREFHRYRKL PSNVDQSALS CSLSADGMLT FSGPKIPSGV
151 DAGHSERAIQ VSREEKPSSA PSS
  
```

C {MATRIX} SCIENCE Mascot Search Results

Protein View

```

Match to: ALBU_BOVIN Score: 49
Serum albumin OS=Bos taurus GN=ALB PE=1 SV=4
Found in search of DATA.TXT

Nominal mass (Mr): 69248; Calculated pI value: 5.82
NCBI BLAST search of ALBU\_BOVIN against nr
Unformatted sequence string for pasting into other applications

Taxonomy: Bos taurus

No enzyme cleavage specificity
Sequence Coverage: 3%

Matched peptides shown in Bold Red

1 MKWVTIFISLL LLLFSSAYSRG VFRRDTHKSE IAHRPKDGLP EHFKRQGLVLIA
51 FSQVLQQCCP DEHVVKLVNL TEFAKTCVAD ESHAGCEKSL HTLFGDELCK
101 VASLRETYGD MADCCQEKKQEP ERNECFCLSHK DDSPLDFPLK PDENTLCDEF
151 KADEEKFWGNG YLYEIAARRH YFYAFELLYY ANKYNGVFQE CQQAQEDKGAC
201 LLPRIETMRK KVLASASQR LRCASIQKFG ERALKANSVA RLSQLKFPAE
251 FVEVTKLVID LTKVHEKECH GDLLECADDR ADLAKYICIDN QDTISSLKKE
301 CCDKPILLEKS HCIAEVEKDQ IPEPNLPLTA DFADEDKDUCK NYQEAQDAFL
351 GSFLYEEYSR HPEAVASVLL RLAKYEATL EECCAKDDPH ACYSTVFDKQ
401 KHLVDEPQNQ IKQNCQDFEK LGEYGFQNLN IVRQTRKVPQ VSTPTLVEVS
451 RSLGKVGTRE CTKPESERM CTEDYDLSLIL NRLCVLHEKT PVSSEKVTKCC
501 IESLVNRRCF FSALIDPEITY VPKAFDKEKL IFHADICLIP DIEKQIKKQQT
551 ALVELLKHKP KATEEQQLKTV MENFVAFVDK CAAADDKEAC FAVEGPKLVV
601 STQTLA
  
```

D {MATRIX} SCIENCE Mascot Search Results

Protein View

```

Match to: gi|114199083 Score: 1002
myelin basic protein [Mus musculus]
Found in search of DATA.TXT

Nominal mass (Mr): 13806; Calculated pI value: 11.33
NCBI BLAST search of gi|114199083 against nr
Unformatted sequence string for pasting into other applications

Taxonomy: Mus musculus

Variable modifications: Acetyl (Protein N-term)
No enzyme cleavage specificity
Sequence Coverage: 19%

Matched peptides shown in Bold Red

1 MASQKRPSQR SKYLATASTM DHARHGLPR HRDTGILDSI GRFFSGDRGA
51 PKRGSGKVWP LKQSRSPLEPS HARSRPGLCH MYKDSHIRIT HYGSLPQKSQ
101 HGRTQDENPV VHFFKNVIP RT
  
```

E {MATRIX} SCIENCE Mascot Search Results

Protein View

```

Match to: gi|225825 Score: 116
beta casein
Found in search of DATA.TXT

Nominal mass (Mr): 23608; Calculated pI value: 5.24
NCBI BLAST search of gi|225825 against nr
Unformatted sequence string for pasting into other applications

Taxonomy: Bos taurus
Links to retrieve other entries containing this sequence from NCBI Entrez:
gi|226030 from Bos taurus

No enzyme cleavage specificity
Sequence Coverage: 12%

Matched peptides shown in Bold Red

1 RELEELANVPG EIVESLSSSE ESITRINKKI EKFQSEEQQQ TEDELQDKIH
51 PFFAGTOSLVV PFFGFIHNSL PQNIPPLTQT PVVVPPFLQP EVMGSVKVKE
101 AMAPKHKEMP FFKYVPEFT ESQSLTLLDV ENLHLPLPLL QSWNHQPHQP
151 LPPTVMMFFPQ SVLSLSQSKV LPVVKQGVTFY PQRDMPIQAF LLYQEPVLPGP
201 VRGPFPIV
  
```

Figure S6. Mascot search results for protein identification of ubiquitin (A), α -crystallin (B), BSA (C), MBP (D) and β -casein (E) of the equimolar 5-proteins mixture using MALDI-FTICR ISD. Sequence coverage of protein termini is indicated in red.

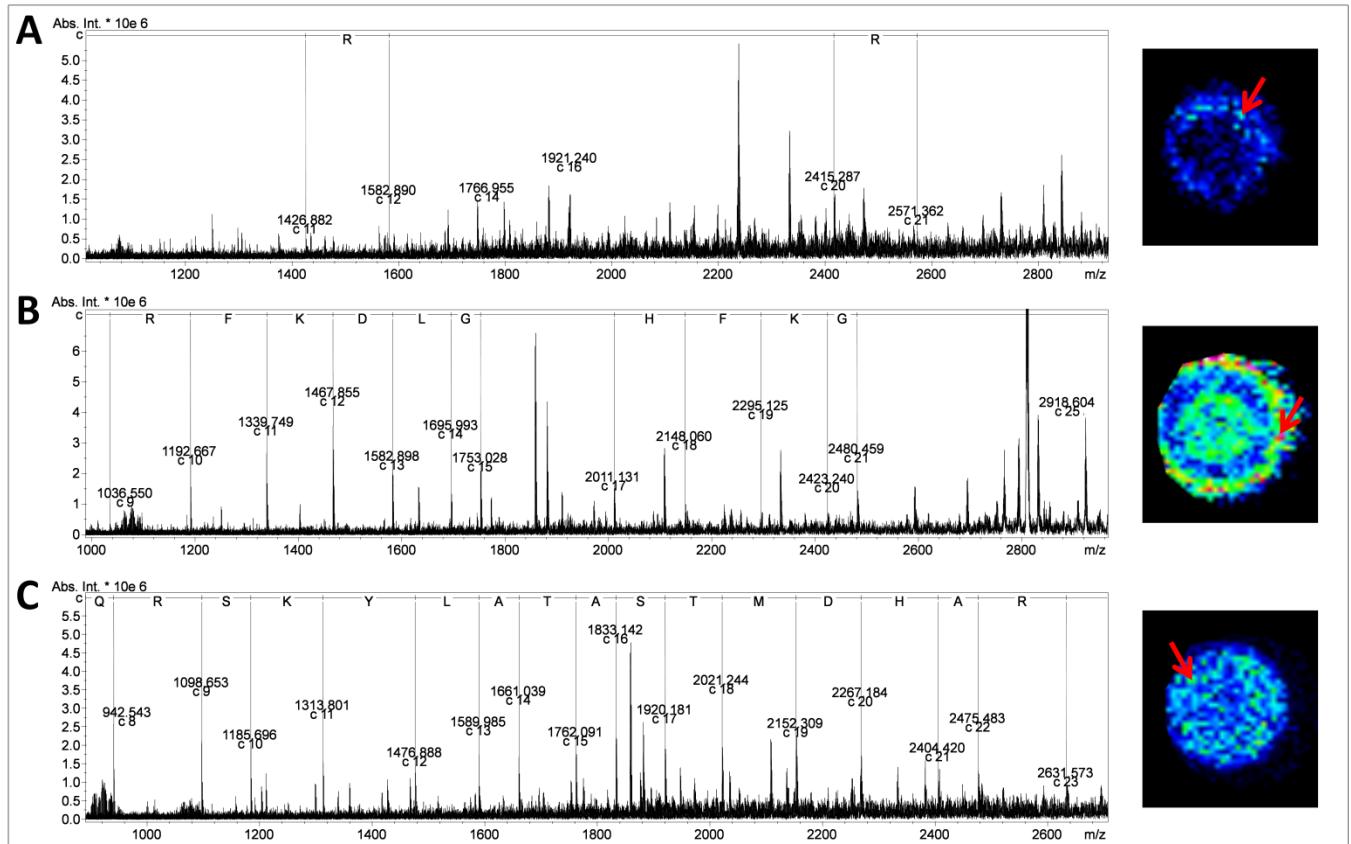


Figure S7. MALDI-FTICR ISD mass spectra of α -crystallin (A), BSA (B) and MBP (C) selected from the non-equimolar 5-proteins ion images.

Red arrows indicate pixels with maximum intensity selected for each ISD mass spectrum of each protein.

A {MATRIX SCIENCE} Mascot Search Results

Protein View

Match to: gi|117373 Score: 50
RecName: Full=Alpha-crystallin A chain; Contains: RecName: Full=Alpha-crystallin A chain, short for
Found in search of DATA.TXT

Nominal mass (M_r): 19792; Calculated pI value: 5.78
NCBI BLAST search of [gi|117373](#) against nr
Unformatted [sequence string](#) for pasting into other applications

Taxonomy: *Tapirus indicus*

Variable modifications: Acetyl (Protein N-term)
No enzyme cleavage specificity
Sequence Coverage: 13%

Matched peptides shown in **Bold Red**

1 **M**DIAIQHPWF **KRTLGPPYPS** RLFQDPFFGEK LFEYDLILPFL SSTISPYYRQ
51 SLFRIVLDDG ISEVNSDRK FVIFLIVKHF SPEDLTWVQ EDFVEINHKKH
101 NERQDQHGVI SREHRRYRL PSNDQQTALS CSLSADGMLT FSGPKVPSL
151 DAGRSERAI P VSREEKSSA PSS

B {MATRIX SCIENCE} Mascot Search Results

Protein View

Match to: ALBU_BOVIN Score: 149
Serum albumin OS=Bos taurus GN=ALB PE=1 SV=4
Found in search of DATA.TXT

Nominal mass (M_r): 69248; Calculated pI value: 5.82
NCBI BLAST search of [ALBU_BOVIN](#) against nr
Unformatted [sequence string](#) for pasting into other applications

Taxonomy: *Bos taurus*

Variable modifications: Acetyl (N-term),Acetyl (Protein N-term)
No enzyme cleavage specificity
Sequence Coverage: 4%

Matched peptides shown in **Bold Red**

1 MKWVTFISLL LLFSSAYSARG VFR**RDTTHKSE** IAHRPF**DLGE** EHPKG**KVLVIA**
51 FSQYLQQCPF DEHVKLVNEL TEFAKTCVAD ESHAGCEKSL HILFG**DELCK**
101 VASLRETYGD MADCE**KQEP** ERNECFLSKH DDSPLDPKLR PD**NTLCDEF**
151 KADEK**KPGW** YLYE**IARRHP** YYFAPELLYY ANKYNGVFQ**E** CCQAEDKGAC
201 LLPKIETMRK KV**LASSARQR** LRCAS**ICKGK** ERALK**KWSVA** RLSQKF**KPKAE**
251 FVEVTKL**VTD** LT**RVKHKRECH** GDL**LECAADD** AD**LAKYICDN** QDT**ISKLM**E
301 C**CDKPLLEK** H**CIAEVEKDA** P**ENLPPLT** D**FAEDRK** V**CWV** NY**GEAKDAFL**
351 GSFLYEYSRA RHE**YAVSVILL** RL**AKYEAIT** E**CCCARDDPH** AC**YSTVEDKL**
401 KHLVDEP**QNL** IK**QNCQFKEK** L**GEYGQFNAL** IV**YTRKVQFQ** V**SPTPLVEVS**
451 R**QAGVGIRC** C**IKPESERMP** C**IEDLSSL** N**RCLVLMHEKI** F**VSEKVKC**
501 TES**IVNRRC** F**SALTIDETY** V**PKAFTDEKLF** T**HADICL** D**TEKQIKKGT**
551 AL**VELLRHRP** K**ATEEQQLRIV** M**ENFVAFVDR** C**CAADDREAC** F**AVEGPKLVV**
601 ST**TALA**

C

{MATRIX SCIENCE} Mascot Search Results

Protein View

Match to: gi|114199083 Score: 1100
myelin basic protein [*Mus musculus*]
Found in search of DATA.TXT

Nominal mass (M_r): 13806; Calculated pI value: 11.33
NCBI BLAST search of [gi|114199083](#) against nr
Unformatted [sequence string](#) for pasting into other applications

Taxonomy: *Mus musculus*

Variable modifications: Acetyl (Protein N-term)
No enzyme cleavage specificity
Sequence Coverage: 18%

Matched peptides shown in **Bold Red**

1 **MASQKRPSQR** SKYLATAST**M** DHARHGFLPR HRDTGILDSI GRFFSGDRGA
51 PKRGSGKVW LKQSRSPLPS HARSRPGLCH MYKDSHTITR HYGSLPQKSQ
101 HGRTQDENPV VHFFKNIVTP RT

Figure S8. Mascot search results for protein identification of α -crystallin (A), BSA (B) and MBP (C) of the non equimolar 5-proteins mixture using MALDI-FTICR ISD. Sequence coverage of protein termini is indicated in red.

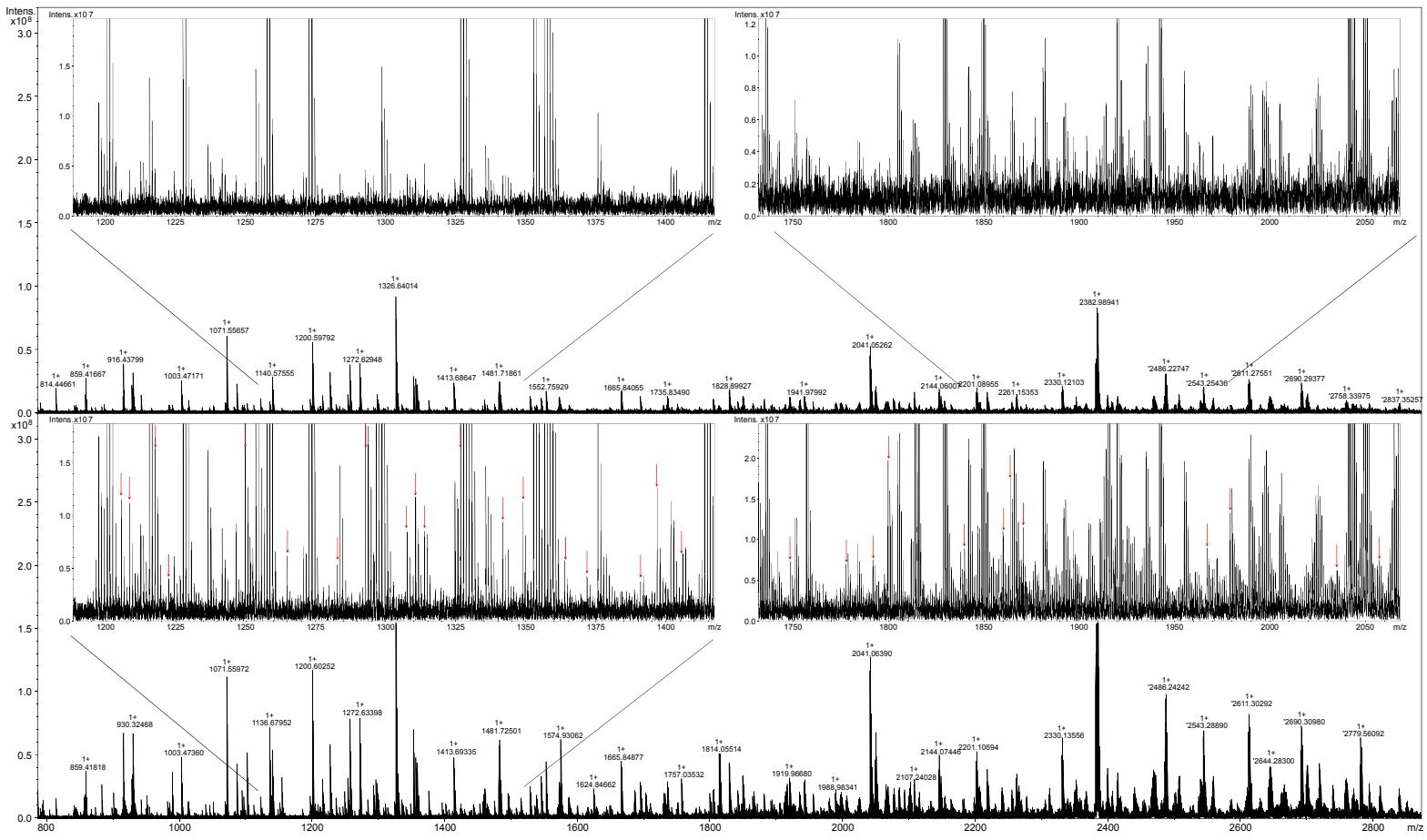


Figure S9. MALDI-FTICR ISD analyzes on an equimolar 10-protein mixture before and after HFIP extraction.

Upper and lower mass spectra correspond to MALDI-FTICR ISD analyzes on an equimolar 10-protein mixtures before and after HFIP extraction respectively. Red arrows on lower mass spectrum indicate peaks corresponding to supplementary ISD ions detected after HFIP extraction.

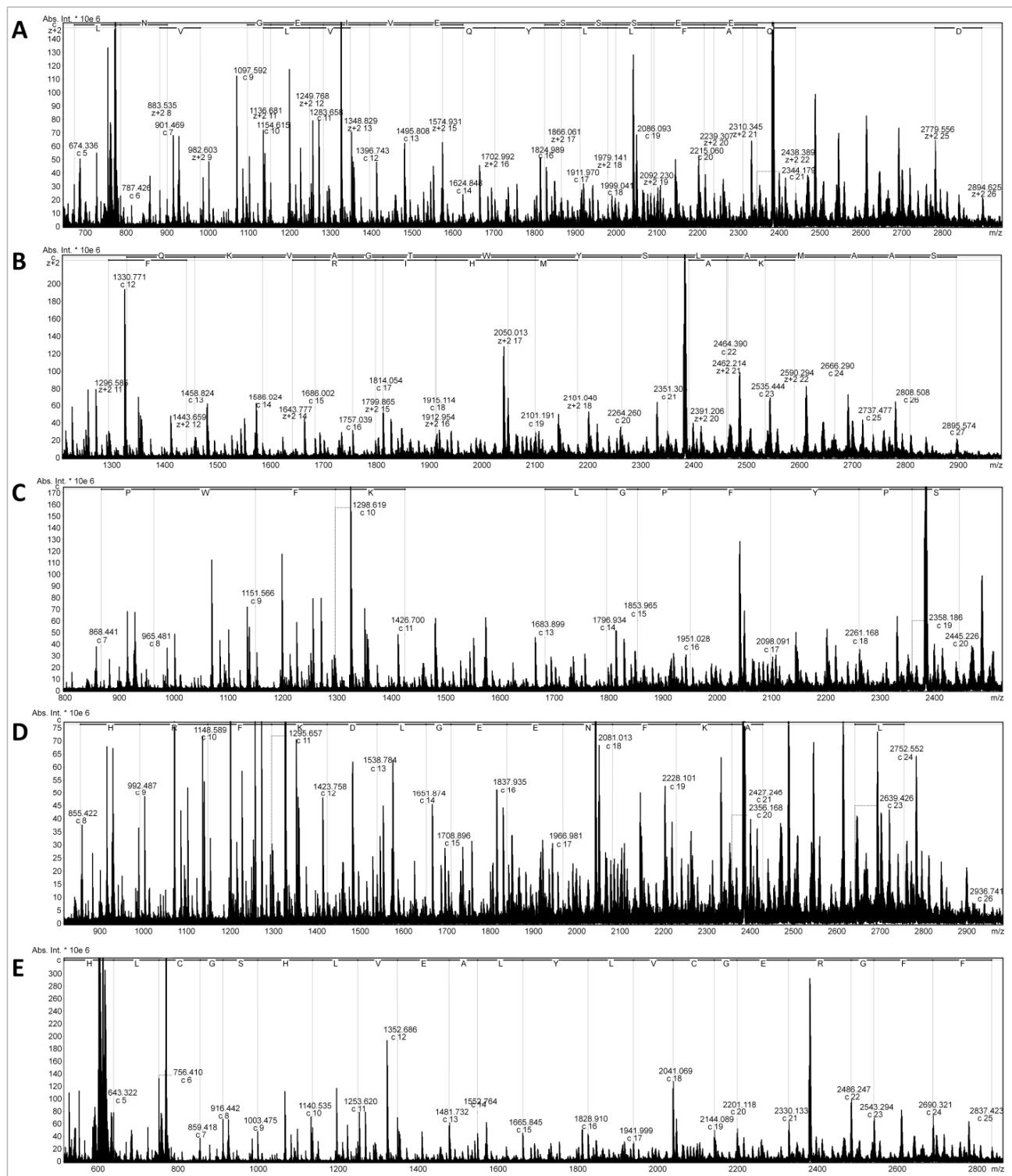


Figure S10. MALDI-FTICR ISD mass spectrum of an equimolar 10-protein mixture treated with HFIP. Same mass spectrum has been used for the assignment of the ISD ions peaks of β -casein (A), β -lactoglobulin (B), α -crystallin (C), HSA (D) and insulin (E).

A {MATERIAL} {SCIENCE} Mascot Search Results

Protein View

Match to: CASB_BUBBU Score: 909
Beta-casein OS=Bubalus bubalis GN=CSN2 PE=2 SV=1
Found in search of DATA.TXT

Nominal mass (M_r): 25090; Calculated pI value: 5.26
NCBI BLAST search of [CASB_BUBBU](#) against nr
Unformatted [sequence string](#) for pasting into other applications

Taxonomy: [Bubalus bubalis](#)

Variable modifications: Acetyl (Protein N-term)
No enzyme cleavage specificity
Sequence Coverage: 23%

Matched peptides shown in **Bold Red**

```
1 MKVLILACLV ALALARELEEE LNVPGEIVES LSSSEESITH INKKIEKFQS
51 EEEQQQMEDEL QDKIHFAQT QSLVYPPFGP IPKSLFPQNIPLTQTPVVVP
101 PFLQEIMGV SKVKEMAPK HKEMPFPPKYP VEFPTESQSL TLTDVENLHL
151 PFLQLQSWMM QPPQPLPTV MFFPQSVLSL SQSKVLPVFP KAVPYFQRDM
201 PIQAFLLYQE PVLGPFVRGPF PIIV
```

C {MATERIAL} {SCIENCE} Mascot Search Results

Protein View

Match to: CRYAA_BOVIN Score: 446
Alpha-crystallin A chain OS=Bos taurus GN=CRYAA PE=1 SV=1
Found in search of DATA.TXT

Nominal mass (M_r): 19778; Calculated pI value: 5.78
NCBI BLAST search of [CRYAA_BOVIN](#) against nr
Unformatted [sequence string](#) for pasting into other applications

Taxonomy: [Bos taurus](#)

Variable modifications: Acetyl (N-term),Acetyl (Protein N-term)
No enzyme cleavage specificity
Sequence Coverage: 11%

Matched peptides shown in **Bold Red**

```
1 MDIAIQHFWF KRTLGPFYPS RLFDQFFEGG LFYEDLLPFI SSTISPYYRQ
51 SLFRTVLDSG ISEVRSDRDX FVIFLDVKHF SPEDDLTVKQQ EDFVEIHGKH
101 NERQDDHGYI SREFHRVRYL PSNVDQSALS CSLSADGMLT FSGPKIPSGV
151 DAGHSERAIP VSREEKPPSSA PSS
```

E {MATERIAL} {SCIENCE} Mascot Search Results

Protein View

Match to: INS_PIG Score: 4058
Insulin OS=Sus scrofa GN=INS PE=1 SV=2
Found in search of DATA.TXT

Nominal mass (M_r): 11664; Calculated pI value: 6.06
NCBI BLAST search of [INS_PIG](#) against nr
Unformatted [sequence string](#) for pasting into other applications

Taxonomy: [Sus scrofa](#)

Variable modifications: Acetyl (N-term),Acetyl (Protein N-term)
No enzyme cleavage specificity
Sequence Coverage: 23%

Matched peptides shown in **Bold Red**

```
1 MALWTRLLPL LALLALWAPA PAQAFVNQHLC CGSHLVEALY LVCGERGFY
51 TPKARREAEN PQAGAVELGG GLGLQLAL EGPPQKRGIV EQCCTSICSL
101 YQLENYCN
```

B {MATERIAL} {SCIENCE} Mascot Search Results

Protein View

Match to: LACB_BOVIN Score: 585
Beta-lactoglobulin OS=Bos taurus GN=LGB PE=1 SV=3
Found in search of DATA.TXT

Nominal mass (M_r): 19870; Calculated pI value: 4.93
NCBI BLAST search of [LACB_BOVIN](#) against nr
Unformatted [sequence string](#) for pasting into other applications

Taxonomy: [Bos taurus](#)

Variable modifications: Acetyl (Protein N-term)
No enzyme cleavage specificity
Sequence Coverage: 27%

Matched peptides shown in **Bold Red**

```
1 MKCLLLALAL TCGAQALIVT QTMRGLDIQK VAGTWYSLAM AASDISLLDA
51 QSAFLRVIVE ELKLPFPEGDIE EILQLQKWENG ECAQKQKIIAE KTKitPAFKI
101 DALNENKVVLV LTDTDYKKVLL FCMENSAAPE QSLACQCLVR TPEVDVDELE
151 KFDKALKALP MHIRLSFNPT QLEBQCHI
```

D {MATERIAL} {SCIENCE} Mascot Search Results

Protein View

Match to: ALBU_HUMAN Score: 1497
Serum albumin OS=Homo sapiens GN=ALB PE=1 SV=2
Found in search of DATA.TXT

Nominal mass (M_r): 69321; Calculated pI value: 5.92
NCBI BLAST search of [ALBU_HUMAN](#) against nr
Unformatted [sequence string](#) for pasting into other applications

Taxonomy: [Homo sapiens](#)

Variable modifications: Acetyl (Protein N-term)
No enzyme cleavage specificity
Sequence Coverage: 4%

Matched peptides shown in **Bold Red**

```
1 MKWVTFISLL FLFSSAYSRC VRFRDAHKSE VAHRFKOLGE ENFKALVIA
51 FAQYIQQCPF EDHVKLVNEV TEFARTCVAD ESAENCOKDSL HTLFGDKLCT
101 VATLRETYGE MADCCAKQEP ERNECFLQHK DDNPNLPLRV RPEVDMCTA
151 FHDNEETFLK KYLYEIARRH PYFYAPELLF FAKRYKAFT ECCQAADKAA
201 CLLPKLDELK DEGKASSAKQ RLKCASLQKF GERAFKAWAY ARLSQRFFKA
251 EFAEVSKLVT DLTKVHTECC HDGLLECAADD RADLAKYICE NQDSISSKLK
301 ECCEKPLLEK SHCIAEVEND EMPADLPSLA ADFVESKDV CKNYAEAKDVF
351 LGMFLYEYAR RHPDYSVULL LRLAKTYETT LEKCCAAADP HECYAKVDE
401 FKPLVEEPQN LIKQNCELFE QLGEYKFCNA LLVRVTKKVP QVSTPTLVEV
451 SRNLGKVGSK CCKHFEAKRM PCAEDYLSVV LNQLCVLHEK TPVSDRVTKC
501 CTESLVNRRP CFSALEVEDET YVPKEFNAET FFTFHADICL SEKERQIKKQ
551 TALVELVKHHR PKATKEQLKA VMDDFAAFV EKCKADDKET CFAEEGKKLV
601 AASQAAIGL
```

Figure S11. Mascot search results for protein identification of β -casein (A), β -lactoglobulin (B), α -crystallin (C), HSA (D) and insulin (E) using MALDI-FTICR ISD. Sequence coverage of protein termini is indicated in red.

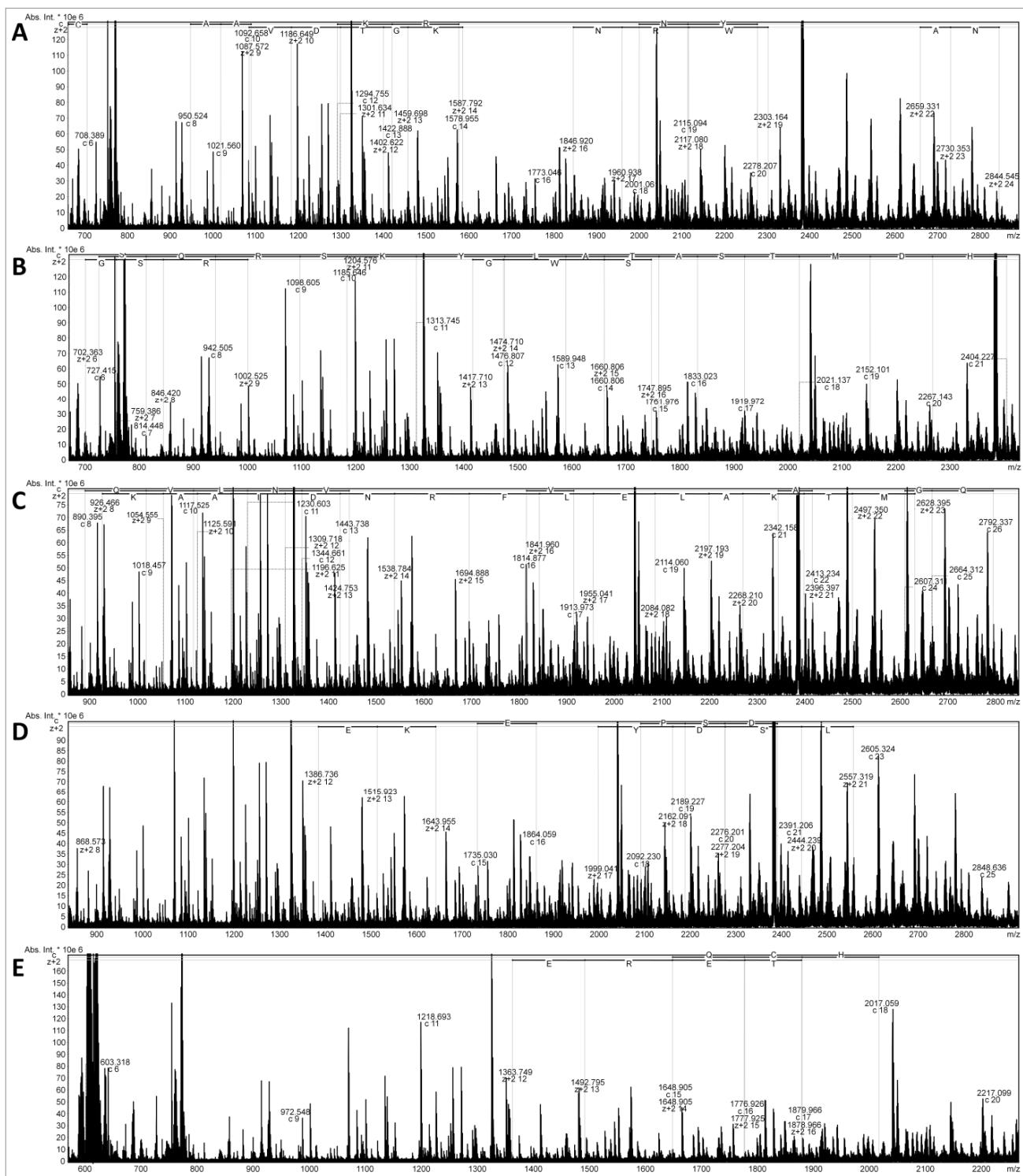


Figure S12. MALDI-FTICR ISD mass spectrum of an equimolar 10-protein mixture treated with HFIP. Same mass spectrum has been used for the assignment of the ISD ions peaks of lysozyme (A), MBP (B), myoglobin (C), ubiquitin (D) and cytochrome c (E).

A {MATRIX} SCIENCE Mascot Search Results

Protein View

Match to: LYSC_CHICK Score: 730
Lysozyme C OS=Gallus gallus GN=LYZ PE=1 SV=1
Found in search of DATA.TXT

Nominal mass (M_r): 16228; Calculated pI value: 9.37
NCBI BLAST search of [LYSC CHICK](#) against nr
Unformatted [sequence string](#) for pasting into other applications

Taxonomy: [Gallus gallus](#)

No enzyme cleavage specificity
Sequence Coverage: 29%

Matched peptides shown in **Bold Red**

1 MRSLLILVLC FLPLAALGKV FGRCEELAAAM KRHGLDNYRG YSLGNWVCAA
51 KFESNFTQTA TNRNTDGSTD YGILQINSRW WCNDGRTPGS RNLCNIPCSA
101 LLSSDITASV NCAKKIVSDG NGM**N**AWAWR NRCKGTDVQA WIRGCR

B {MATRIX} SCIENCE Mascot Search Results

Protein View

Match to: MBP_MOUSE Score: 1260
Myelin basic protein OS=Mus musculus GN=MBP PE=1 SV=2
Found in search of DATA.TXT

Nominal mass (M_r): 27151; Calculated pI value: 9.58
NCBI BLAST search of [MBP MOUSE](#) against nr
Unformatted [sequence string](#) for pasting into other applications

Taxonomy: [Mus musculus](#)

Variable modifications: Acetyl (N-term),Acetyl (Protein N-term)
No enzyme cleavage specificity
Sequence Coverage: 20%

Matched peptides shown in **Bold Red**

1 MGNHSGKREL SAEKASKDGE IHRGEAGKKR SVGKLSQTAS EDSDVFGEAD
51 AIQNNGTSAE DIAVATIDSQHT ADPKNNQQGA HFADPGNRPH LIRLFSDRAP
101 GREDNTFKDR PSESDELQTI QRDPTAAASGG LDVMA**S**QRP **R**SRSYV**L**ATA
151 STMDHARHG**F** LPRHRDTGIL DSIGRFFSGD RGAPKRGSGK DSHTRTTHYG
201 SLPQKSQHGR TQDENPVVHF FKNI**V**TPRTP PPSQGKG**R**D SRSGSPMARR
251

C {MATRIX} SCIENCE Mascot Search Results

Protein View

Match to: MYG_EQUBU Score: 864
Myoglobin OS=Equus burchelli GN=MB PE=1 SV=2
Found in search of DATA.TXT

Nominal mass (M_r): 17072; Calculated pI value: 7.21
NCBI BLAST search of [MYG_EQUBU](#) against nr
Unformatted [sequence string](#) for pasting into other applications

Taxonomy: [Equus burchellii](#)

Variable modifications: Acetyl (Protein N-term)
No enzyme cleavage specificity
Sequence Coverage: 31%

Matched peptides shown in **Bold Red**

1 MGLSDGEWQQ VLNVNGRVEA DIAGHGQEVL IRLFTGHPET LEKFDFKFHKL
51 KTEAEMKASE DLKKHGTVVL TALGGILKKK GHHEAELKEL AQSHATKHKI
101 PIKYLEFISD AIIHVHLHSKH PGDFGADAQG AMTKALELPR NDIAARYKEL
151 **G**FQG

D {MATRIX} SCIENCE Mascot Search Results

Protein View

Match to: UBC_PIG Score: 375
Polyubiquitin-C OS=Sus scrofa GN=UBC PE=2 SV=1
Found in search of DATA.TXT

Nominal mass (M_r): 59956; Calculated pI value: 7.10
NCBI BLAST search of [UBC_PIG](#) against nr
Unformatted [sequence string](#) for pasting into other applications

Taxonomy: [Sus scrofa](#)

Variable modifications: Acetyl (K),Phospho (ST)
No enzyme cleavage specificity
Sequence Coverage: 9%

Matched peptides shown in **Bold Red**

1 MQIFVVRTLTG KTITLEVEPS DTIENVKGKI QEKEGIPFPDQ QRLIFAGKQL
51 EDGRTLSDYN IQKESTLHLV LRLRG**G**QI**F** VKTLTGKTIT LEVEPSDTIE
101 NVKAKIQDKE GIPPDQQQRLLI FAGKQLEDGR TLSLDYNIKE STLHVLRLLR
151 GGMQIFVKTL TGKTTITLEVE PSDTENVKA KIQDKEGIPP DQQRLIFAGK
201 QLEDGRTLSD YNIQKESTLHVLRLLRG**M** IFVKTLTGKT ITLEVEPSDT
251 IENVKAKIQD KE**G**IPFPDQ**R** LIFAGKQLED GR**T**LSLDYNIQ KESTLHVLR
301 LRGGMQIFVK TLGKTITLE VEPSDTIENV KAKIQDKEGI PPDQQLIF**A**
351 GKQLEDGRTL SDYNIQKEST LHVLRLLRG**G** MQIFVKTLTG KTITLEVEPS
401 DTIENVKAKI QDKEGIPFPDQ QRLIFAGKQL EDGRTLSDYN IQKESTLHV
451 LRLRG**G**QI**F** VKTLTGKTIT LEVEPSDTIE NVKAKIQDKE GIPPDQQQRLL
501 FAGKQLEDGR TLSLDYNIQKE STLHVLRLL RGF

E {MATRIX} SCIENCE Mascot Search Results

Protein View

Match to: CYC_EQUAS Score: 172
Cytochrome c OS=Equus asinus GN=CYCS PE=1 SV=2
Found in search of DATA.TXT

Nominal mass (M_r): 11811; Calculated pI value: 9.59
NCBI BLAST search of [CYC_EQUAS](#) against nr
Unformatted [sequence string](#) for pasting into other applications

Taxonomy: [Equus asinus](#)

Variable modifications: Acetyl (Protein N-term)
No enzyme cleavage specificity
Sequence Coverage: 34%

Matched peptides shown in **Bold Red**

1 MG**D**V**E**KGKKI FV**Q**K**C**A**Q**CHT VE**K**GG**K**H**K**TG PN**L**H**G**F**G**R**K** TG**Q**AP**G**F**S**T
51 DANKNK**G**ITW KEETLM**E**YLE NP**K**KY**I**P**G**T**K** MIFAGIKKKT E**R**ED**L**IAY**L**K
101 KAT**N**E

Figure S13. Mascot search results for protein identification of lysozyme (A), MBP (B), myoglobin (C), ubiquitin (D) and cytochrome c (E) using MALDI-FTICR ISD. Sequence coverage of protein termini is indicated in red.