## Supplementary Material

Figure S1: Deconvolution of two peptides from the fraction A1 (eluted at 24.8min) corresponding to the fragments 2-10 and 110-117 of hemoglobin $\alpha$ chain.
$>$ tr|A8DUV1|A8DUV1_MOUSE Alpha-globin $\mathrm{OS}=$ Mus musculus $\mathrm{OX}=10090 \mathrm{GN}=\mathrm{Hbat1} 1 \mathrm{PE}=3 \mathrm{SV}=1$

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1 \text { MVLSGEDKSN IKAAWGKIGG HGAEYVAEAL ERMFASFPTT KTYFPHFDVS HGSAQVKGHG KKIADALASA AGHLDDLPGA LSALSDLHAH}
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91 KLRVDPVNFK LLSHCLLVTL ASHHPADFTP AVHASLDKFL ASVSTVLTSK YR
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Sequence $=$ VLSGEDKSN, SCan $737, m / z=474.9800, z=2, R T=11.31,-1019 P=33.88$, ppm $=516.6$, by PEAKS DB



Sequence $=$ LASHHPAD, Scan $687, m / z=424.3741, z=2, R T=10.66,-1019 P=26.52$, ppm $=396.1$, by $P E A K S$ DB


Figure S2: Deconvolution of three peptides from the fraction A2 (eluted at 64.5 min ) corresponding to the fragments 45-57, 75-95 and 119-145 of hemoglobin $\alpha$ chain.
>sp|P01942|HBA_MOUSE Hemoglobin subunit alpha OS=Mus musculus $\mathrm{OX}=10090 \mathrm{GN}=\mathrm{Hba}$ PE $=1 \mathrm{SV}=2$
1 MVLSGEDKSN IKAAWGKIGG HGAEYGAEAL ERMFASFPTT KTYFPHFDVS HGSAQVKGHG KKVADALASA AGHLDDLPGA LSALSDLHAH


Figure S3: Deconvolution of three peptides from the fraction A3 (eluted at 81.8min) corresponding to the fragments 45-58, 76-104 and 106-147 of hemoglobin $\alpha$ chain
$>$ tr|T1DQ28|T1DQ28_ANOAQ Putative hemoglobin subunit alpha (Fragment) $\mathrm{OS}=$ Anopheles aquasalis $\mathrm{OX}=42839 \mathrm{PE}=2 \mathrm{SV}=1$
1 VLSGEDKSNI KAAWGKIGGH GAEYGAEALE RMFASFPTTK TYFPHFDVSH GSAQVKGHGK KVADALATAA GHLDDLPGAL SALSDLHAHK
91 LRVDPVNFKL LSHCLLVTLA SHHPADFTPA VHASLDKFLA SVSTVLTSKY R


Figure S4: Deconvolution of two peptides from the fraction B1 (eluted at 28.28 min ) corresponding to the fragments 2-10 and 56-77 of hemoglobin $\beta$ chain. >t|Q9QUNB|Q9QUN3_MOUSE Beta-2-globin (Fragment) OS=Mus musculus OX $=10090 \mathrm{GN}=\mathrm{Hbb}-\mathrm{b} 2 \mathrm{PE}=2 \mathrm{SV}=1$

VHLTDAEKSA VSCLWAKVNP DAIGGEALGR LLVVYPWTQR YFDSFGDLSS ASAIMGNPKV KAHGKKVITA FNEGLKNLDN LKGTFASLSE

91 LHCDKLHVDP ENFRLLGNAI VIVLGHHLGK DFTPAAQAAF QKVVAGVATA LAHKYH


Sequence $=$ ASAIMGN, Scan $908, \mathrm{~m} / \mathrm{z}=663.3781, \mathrm{z}=1, \mathrm{RT}=13.42,-10 \mathrm{lgP}=18.91$, ppm $=98.2$, by PEAKS DB $\qquad$
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Intensity (\%) $\mathbf{A}\left\lceil\mathbf{S}\lceil\mathbf{A} \sqrt{\mathbf{I}} \sqrt{\mathbf{M}}]_{\mathrm{G}} \mathrm{J}_{\mathrm{N}}\right.$


Figure S5: Deconvolution of five peptides from the fraction B2 (eluted at 28.28 min ) corresponding to the fragments 1-10, 16-27, 49-70, 73-80 and 122-136 of hemoglobin $\beta$ chain.
>t|Q54AH9|Q54AH9_MOUSE Beta-2-globin (Fragment) OS=Mus musailus $\mathrm{OX}=10090 \mathrm{GN}=\mathrm{H}$ bb-b2 PE $=2 \mathrm{SV}=1$
VHLTDAEKSA VSCLWAKVNP DEVGGEALGR LLVVYPWTQR YFDSFGDLSS ASAIMGNPKV KAHGKKVITA FNEGLKNLDN LKGTFASLSE

91 LHCDKLHVDP ENFRLLGNAI VIVLGHHLGK DFTPAAQAAF QKVVAGVATA LAHKYH


Figure S6: Deconvolution of three peptides from the fraction B3 (eluted at 43min) corresponding to the fragments 1-12, 58-72 and 112-129 of hemoglobin $\beta$ chain.
>tr|Q9QUN8|Q9QUN8_MOUSE Beta-2-globin (Fragment) OS=Mus muscalus $\mathrm{OX}=10090 \mathrm{GN}=\mathrm{Hbb}-\mathrm{b} 2 \mathrm{PE}=2 \mathrm{SV}=1$

VHLTDAEKSA VSCLWAKVNP DAIGGEALGR LLVVYPWTQR YFDSFGDLSS ASAIMGNPKV KAHGKKVITA FNEGLKNLDN LKGTFASLSE

91 LHCDKLHVDP ENFRLLGNAI VIVLGHHLGK DFTPAAQAAF QKVVAGVATA LAHKYH


Figure S7: Deconvolution of three peptides from the fraction B4 (eluted at 48.1min) corresponding to the fragments 2-14, 59-88 and 135-147 of hemoglobin $\beta$ chain.
>t $|A 8 D U K 0| A 8 D U K 0 \_$MOUSE Beta-globin OS=Mus musculus $\mathrm{OX}=10090 \mathrm{GN}=\mathrm{Hbbt1} \mathrm{PE}=3 \mathrm{SV}=1$

1 MVHLTDAEKA AVSCLWGKVN SDEVGGEALG RLLVVYPWTQ RYFDSFGDLS SASAIMGNAK VKAHGKKVIT AFNDGLNHLD SLKGTFASLS

91 ELHCDKLHVD PENFRLLGNM IVIVLGHHLG KDFTPAAQAA FQKVVAGVAT ALAHKYH


Figure S8: Deconvolution of four peptides from the fraction B5 (eluted at 56.4 min ) corresponding to the fragments $34-40,59-71,75-86$ and $90-100$ of hemoglobin $\beta$ chain.
>tr|E9Q223|E9Q223_MOUSE Hemoglobin, beta adults chain (Fragment) $\mathrm{OS}=$ Mus musculus $\mathrm{OX}=10090 \mathrm{GN}=\mathrm{Hbb}$-bs PE= $1 \mathrm{SV}=1$
1 MVHLTDAEKA AVSGLWGKVN ADEVGGEALG RLLVVYPWTQ RYFDSFGDLS SASAIMGNAK VKAHGKKVIT AFNDGLNHLD SLKGTFASLS
91 ELHCDKLHVD PEN

Sequence $=$ WVYPWTQ, Scan $1077, m / z=893.4632, z=1, R T=16.24,-1019 P=19.73, p P m=1129.5$, by PEAKS DB
Intensity (\%) $\mathbf{V}\lceil\mathbf{V}\lceil\mathbf{Y} \sqrt{\mathbf{P}} \sqrt{\mathbf{W}} \sqrt{\mathbf{T}}\rfloor \mathrm{Q}$


Sequence $=$ GLNHLDSLKGTF, SCan $1025, \mathrm{~m} / \mathrm{z}=651.4217, z=2$, RT $=15.41,-10 \mathrm{lgP}=32.20$, pPm $=116.4$, by PEAKS DB Intensity (\%) G $\left\lceil\mathbf{L} \sqrt{\mathbf{N}} \sqrt{\mathbf{H}} \sqrt{\mathbf{L}} \sqrt{\mathrm{D}} \sqrt{\mathbf{S}} \sqrt{\mathbf{L}} \sqrt{\mathbf{K}} \sqrt{\mathrm{G}} \sqrt{\mathbf{T}}{ }_{\mathrm{F}}\right.$


Sequence $=$ AKKKAHGKVVITA, Scan $698, m / z=451.2678, z=3, R T=10.87,-1019 P=17.85$, ppm $=689.7$, by PEAKS DB $\rightarrow$
Intensity (\%) $\mathbf{A} \mid \mathbf{K} \sqrt{\mathbf{V}} \sqrt{\mathbf{K}} \sqrt{\mathbf{A}} \sqrt{\mathbf{H}} \sqrt{\mathbf{G}} \sqrt{\mathbf{K}} \sqrt{\mathbf{K}} \sqrt{\mathbf{V}} \sqrt{\mathbf{I}}]_{\mathrm{T}} \mathrm{A}_{\mathrm{A}}$


- Sequence $=$ SELHCDKRHVD, SCan $860, m / z=433.0341, z=3, R T=13.15,-1019 P=22.32$, ppm $=1145.4$, by PEAKS DB

Intensiky (\%) $\mathrm{S} \mid \mathrm{E} \sqrt{\mathrm{L}} \sqrt{\mathrm{H}} \sqrt{\mathrm{C}} \sqrt{\mathrm{D}} \sqrt{\mathrm{K}} \sqrt{\mathrm{L}} \sqrt{\mathrm{H}} \sqrt{\mathrm{V}} \mathrm{D}_{\mathrm{D}}$


Figure S9: Deconvolution of five peptides from the fraction B6 (eluted at 61.7 min ) corresponding to the fragments 2-15, 21-33, 90-100, 104-110 and 131-147 of hemoglobin $\beta$ chain.

|  | 2093\|HB81_MOUSE Hemoglobin subunit beta-1 OS=Mus musculus $\mathrm{OX}=10090$ |
| :---: | :---: |

1 MVHLTDAEKA AVSCLWGKVN SDEVGGEALG RLLVVYPWTQ RYFDSFGDLS SASAIMGNAK VKAHGKKVIT AFNDGLNHLD SLKGTFASLS

91 ELHCDKLHVD PENFRLLGNM IVIVLGHHLG KDFTPAAQAA FQKVVAGVAT ALAHKYH


Figure S10: Deconvolution of two peptides from the fraction B2 (eluted at 93.7 min ) corresponding to the fragments 100-107 and 112-146 of hemoglobin $\beta$ chain.


1 VHLTDAEKSA VSCLWAKVNP DEVGGEALGR LLVVYPWTQR YFDSFGDLSS ASAIMGNPKV KAHGKKVITA FNEGLKNLDN LKGTFASLSE
91 LHCDKLHVDP ENFRLLGNAI VIVLGHHLGK DFTPAAQAAF QKVVAGVATA LAHKYH


Figure S11: Deconvolution of the main peptide from the fraction A1 (elute dat 24.8 min ) corresponding to the fragment 2-10 of hemoglobin $\alpha$ chain.


Figure S12: Deconvolution of the main peptide from the fraction A2 (eluted at 64.5 min ) corresponding to the fragment $77-95$ of he moglobin $\alpha$ chain.


Figure S13: Deconvolution of the main peptide from the fraction A3 (eluted at 81.8 min ) corresponding to the fragment $77-95$ of he moglobin $\alpha$ chain.



Figure S14: Deconvolution of the main peptide from the fraction B1 (eluted at 28.8 min ) corresponding to the fragment 2-10 of hemoglobin $\beta 2$ chain.


Figure S15: Deconvolution of the main peptide from the fraction B2 (eluted at 35.5 min ) corresponding to the fragment 1-10 of hemoglobin $\beta 2$ chain.


Figure S16: Deconvolution of the main peptide from the fraction B3 (elute dat 43.0 min ) corresponding to the fragment $59-74$ of hemoglobin $\beta 1$ chain.



Figure S17: Deconvolution of the main peptide from the fraction B4 (elute dat 48.1 min ) corresponding to the fragment $59-77$ of hemoglobin $\beta 1$ chain.



Figure S18: Deconvolution of the main peptide from the fraction B5 (eluted at 56.4 min ) corresponding to the fragment $75-84$ of hemoglobin $\beta 1$ chain.


Figure S19: Deconvolution of the main peptide from the fraction B6 (eluted at 61.7 min ) corresponding to the fragment 131-147 of hemoglobin $\beta 1$ chain.


Figure S20: Deconvolution of the main peptide from the fraction B7 (elute dat 93.7 min ) corre sponding to the fragment 123-147 of hemoglobin $\beta 2$ chain.


