Supplemental Table 1: Wound Bed[1]

Protein name	Sequence coverage	Peptide sequence	Calculated peptide mass (Da)
Collagen alpha-1(XII) chain	1.93%	DLSADTEYQISVSAMK	1,758
		ITVIAVYEDGDGGHLTGNGR	2,044
		NSDVEIFAVGVK	1,278
		TEFNLNQYYQR	1,476
Collagen alpha-1(VI) chain	3.02%	DAEEAISQTIDTIVDMI	1,864
		DAEEAISQTIDTIVDMIK	1,992
		GLEQLLVGGSHLK	1,351
Annexin A1 OS=Homo sapiens	11.60%	GVDEATIIDILTK	1,388
		SEDFGVNEDLADSDAR	1,740
		TPAQFDADELR	1,263
Hemoglobin subunit beta	44.20%	EFTPPVQAAYQK	1,379
		FFESFGDLSTPDAVMGNPK	2,075
		SAVTALWGK	933
		VNVDEVGGEALGR	1,315

		VVAGVANALAHK	1,150
Serotransferrin	4.58%	DGAGDVAFVK	978
		HSTIFENLANK	1,274
		SASDLTWDNLK	1,250
Myristoylated alanine-rich C-kinase substrate	24.70%	EAPAEGEAAEPGSPTAAEGEAASAASSTSSPK	2,915
		EELQANGSAPAADKEEPAAAGSGAASPSAAEK	2,982
		GEPAAAAAPEAGASPVEK	1,623
Annexin A6	6.54%	DLEADIIGDTSGHFQK	1,746
		GLGTDEDTIIDIITHR	1,769
		PANDFNPDADAK	1,275
Neuroblast differentiation-associated protein AHNAK	0.70%	GEGPDVDVNLPK	1,240
		IEGEMQVPDVDIR	1,501
		VDIEGPDVNIEGPEGK	1,668
Actin, cytoplasmic 1	42.70%	ALDFEQEMATAASSSSLEK	2,015
		DLTDYLMK	998
		DLYANTVLSGGTTMYPGIADR	2,231

		DSYVGDEAQSK	1,199
		EITALAPSTMK	1,178
		GYSFTTTAER	1,133
		HQGVMVGMGQK	1,172
		NTVLSGGTTMYPGIADR	1,753
		QEYDESGPSIVHR	1,517
		SYELPDGQVITIGNER	1,791
		TTGIVMDSGDGVTHTVPIYEGY	2,312
		VAPEEHPVLLTEAPLNPK	1,954
		VLSGGTTMYPGIADR	1,538
Serum albumin	20.90%	AEFAEVSK	880
		AVMDDFAAFVEK	1,343
		DLGEENFK	951
		DVFLGMFLYEYAR	1,624
		FKDLGEENFK	1,227
		FQNALLVR	961
		FYAPELLFFAK	1,346
		HPYFYAPELLFFAK	1,743
		MDDFAAFVEK	1,173
		QTALVELVK	1,001
		RHPDYSVVLLLR	1,468
		SLHTLFGDK	1,018
		TYETTLEK	984

		VFDEFKPLVEEPQNLI	1,917
		VFDEFKPLVEEPQNLIK	2,045
		YLYEIAR	927
Collagen alpha-1(I) chain	33.10%	DGEAGAQGPPGPAGPAGER	1,691
		DGLNGLPGPIGPPGPR	1,562
		EGAPGAEGSPGR	1,116
		GANGAPGIAGAPGFPGAR	1,586
		GDAGPAGPKGEPGSPGENGAPGQMGPR	2,525
		GDAGPPGPAGPAGPPGPIGNVGAPGAK	2,281
		GDRGETGPAGPPGAPGAPGAPGPVGPAGK	2,513
		GEPGPPGPAGFAGPPGADGQPGAK	2,134
		GEPGPVGVQGPPGPAGEEGK	1,848
		GEPGSPGENGAPGQMGPR	1,743
		GESGPSGPAGPTGAR	1,298
		GETGPAGPPGAPGAPGAPGPVGPAGK	2,169
		GETGPAGRPGEVGPPGPPGPAGEK	2,216
		GFSGLQGPPGPPGSPGEQGPSGASGPAGPR	2,705
		GLTGPIGPPGPAGAPGDK	1,591
		GLTGPIGPPGPAGAPGDKGESGPSGPAGPTGAR	2,869

		GNDGATGAAGPPGPTGPAGPPGFPGAVGAK	2,548
		GPAGPQGPR	836
		GPPGPMGPPGLAGPPGESGR	1,833
		GPPGSAGAPGK	911
		GPSGPQGPGGPPGPK	1,319
		GQAGVMGFPGPK	1,194
		GSAGPPGATGFPGAAGR	1,460
		GSPGADGPAGAPGTPGPQGIAGQR	2,105
		GSPGEAGRPGEAGLPGAK	1,656
		GVVGLPGQR	899
		PGEAGLPGAK	928
		PGEQGVPGDLGAPGPSGAR	1,767
		VGPPGPSGNAGPPGPPGPAGK	1,813
Ceruloplasmin	4.88%	EFYLFPTVFDENESLLLEDNIR	2,703
		TTIEKPVWLGFLGPIIK	1,912
		VNKDDEEFIESNK	1,567
Alpha-enolase	12.40%	DYPVVSIEDPFDQDDWGAWQK	2,510
		FTASAGIQVVGDDLTVTNPK	2,033
		GNPTVEVDLFTSK	1,407
Alpha-2-macroglobulin	5.63%	AEVGVTVPDTITEWK	1,645
		LHTEAQIQEEGTVVELTGR	2,110

		LPPNVVEESAR	1,211
		NEDSLVFVQTDK	1,395
		SSGSLLNNAIK	1,104
		SSSNEEVMFLTVQVK	1,698
Caldesmon	7.19%	QEEESLGQVTDQVEVNAQNSVPDEEAK	2,972
		TTTTNTQVEGDDEAAFLER	2,098
		YEIEETETVTK	1,342
Tenascin	2.04%	ESNPATINAATELDTPK	1,772
		SQTVSAIATTAMGSPK	1,550
		TPVLSAEASTAK	1,175
14-3-3 protein zeta/delta	24.90%	DSTLIMQLLR	1,190
		GIVDQSQQAYQEAFEISK	2,041
		SVTEQGAELSNEER	1,549
		TAFDEAIAELDTLSEESYK	2,132
Prelamin-A/C	6.02%	NSNLVGAAHEELQQSR	1,753
		SGAQASSTPLSPTR	1,360
		SLETENAGLR	1,090
Filamin-A	3.14%	DAGEGGLSLAIEGPSK	1,501
		EAGAGGLAIAVEGPSK	1,427
		SAGQGEVLVYVEDPAGHQEEAK	2,313
		VGSAADIPINISETDLSLLTATVVPPSGR	2,894
Annexin A2	20.10%	AEDGSVIDYELIDQDAR	1,909

		DIISDTSGDFR	1,226
		GVDEVTIVNILTNR	1,543
		SALSGHLETVILGLLK	1,651
		TNQELQEINR	1,245
Fibrinogen alpha chain	26.90%	ESSSHHPGIAEFPSR	1,638
		GGSTSYGTGSETESPR	1,573
		GLIDEVNQDFTNR	1,521
		GSAGHWTSESSVSGSTGQWHSESGSFRP DSPGSGNAR	3,734
		HPDEAAFFDTASTGK	1,594
		LEVDIDIK	945
		MADEAGSEADHEGTHSTK	1,873
		NPGSSGTGGTATWKPGSSGPGSTGSWNS GSSGTGSTGNQNPGSPR	4,121
		NPSSAGSWNSGSSGPGSTGNR	1,964
		PGSTGTWNPGSSER	1,433
		PNNPDWGTFEEVSGNVSPGTR	2,260
		VTSGSTTTTR	1,011
Ig kappa chain C region	35.80%	DSTYSLSSTLTLSK	1,503
		VDNALQSGNSQESVTEQDSK	2,136
		VQWKVDNALQSGNSQESVTEQDSK	2,677

Triosephosphate isomerase	19.90%	ELASQPDVDGFLVGGASLKPEFVDIINAK	3,030
		SNVSDAVAQSTR	1,235
		VTNGAFTGEISPGMIK	1,622
Actin, aortic smooth muscle	33.40%	ALDFENEMATAASSSSLEK	2,001
		DLTDYLMK	998
		DLYANNVLSGGTTMYPGIADR	2,228
		DSYVGDEAQSK	1,199
		EITALAPSTMK	1,178
		HQGVMVGMGQK	1,172
		QEYDEAGPSIVHR	1,484
		SYELPDGQVITIGNER	1,791
		VLSGGTTMYPGIADR	1,538
		YPIEHGIITNWDDMEK	1,961
Peptidyl-prolyl cis-trans isomerase B	21.30%	DFMIQGGDFTR	1,287
		DTNGSQFFITTVK	1,458
		TVDNFVALATGEK	1,365
		VLEGMEVVR	1,032
Fibulin 1	8.74%	IIEVEEEQEDPYLNDR	1,991
		SQETGDLDVGGLQETDK	1,792

		VSPHSGVVALTKPVPEPRDLLLTVKMDLSR	3,271
Serpin H1	16.50%	DEEVHAGLGELLR	1,438
		DQAVENILVSPVVVASSLGLVSLGGK	2,551
		HLAGLGLTEAIDK	1,338
		SALQSINEWAAQTTDGK	1,820
Alpha-1-antichymotrypsin	12.80%	AVLDVFEEGTEASAATAVK	1,908
		DLDSQTMMVLVNYIFFK	2,064
		HPNSPLDEENLTQENQDR	2,136
		NSPLDEENLTQENQDR	1,902
Histone H1.4	10.50%	ALAAAGYDVEK	1,108
		ASGPPVSELITK	1,199
		GPPVSELITK	1,041
Heat shock protein HSP 90-alpha	6.28%	EDQTEYLEER	1,312
		GVVDSEDLPLNISR	1,514
		NPDDITNEEYGEFYK	1,834
		TKPIWTRNPDDITNEEYGEFYK	2,748
Fibronectin	6.16%	GLKPGVVYEGQLISIQQYGHQEVTR	2,799
		HTSVQTTSSGSGPF	1,393

		NLQPASEYTVSLVAIK	1,733
		SSPVVIDASTAIDAPSNLR	1,913
		TEIDKPSQMQVTDVQDNSISVK	2,462
		TETITGFQVDAVPANGQTPIQR	2,343
		VPGTSTSATLTGLTR	1,462
		VTDATETTITISWR	1,594
Hemoglobin subunit alpha	30.30%	TYFPHFDLSHGSAQVK	1,834
		VADALTNAVAHV	1,181
		VGAHAGEYGAEALER	1,530
TRYP_PIG TRYPSIN PRECURSOR	16.90%	LGEHNIDVLEGNEQFIN	1,941
		LSSPATLNSR	1,046
		YVNWIQQTIAAN	1,421
Tubulin beta chain	14.90%	EVDEQMLNVQNK	1,463
		FWEVISDEHGIDPTGTYHGDSDLQLDR	3,102
		GHYTEGAELVDSVLDVVR	1,959
		GHYTEGAELVDSVLDVVRKEAESCDCL	2,937
78 kDa glucose-regulated protein	10.40%	DAGTIAGLNVMR	1,234
		ELEEIVQPIISK	1,398

		NQLTSNPENTVFDAK	1,678
		SQIFSTASDNQPTVTIK	1,837
		TWNDPSVQQDIK	1,431
Collagen alpha-3(VI) chain	7.77%	ALGSAIEYTIENVFESAPNPR	2,278
		DEVQNAVQR	1,059
		DQNVFVAQK	1,049
		DVVFLIDGSQSAGPEFQYVR	2,227
		GFMYDRPLRLNLLDLDYELAEQLDNIAEK	3,500
		IEDGVLQFLVLLVAGR	1,742
		IEDGVPQHLVLVLGGK	1,674
		IIDELNVKPEGTR	1,484
		LNLLDLDYELAEQLDNIAEK	2,332
		NADPAELEQIVLSPAFILAAESLPK	2,636
		NLLDLDYELAEQLDNIAEK	2,219
		NLQVALTSK	974
		NNLFTSSAGYR	1,230
		QLGTVQQVISER	1,358
		SLDEISQPAQELK	1,458
		SVEDAQDVSLALTQR	1,632
		TELQTITNDPR	1,288
		VVIHFTDGADGDLADLHR	1,951

Endoplasmin	5.60%	EEASDYLELDTIK	1,526
		EEEAIQLDGLNASQIR	1,786
		EESDDEAAVEEEEEEK	1,867
Transketolase	9.47%	ILATPPQEDAPSVDIANIR	2,020
		SVPTSTVFYPSDGVATEK	1,885
		TSRPENAIIYNNNEDFQVGQAK	2,508
Pyruvate kinase isozymes M1/M2	17.50%	DPVQEAWAEDVDLR	1,643
		GADFLVTEVENGGSLGSK	1,780
		GSGTAEVELK	991
		GVNLPGAAVDLPAVSEK	1,637
		LDIDSPPITAR	1,198
		PVAVALDTK	914
		TATESFASDPILYR	1,571
Vimentin	39.70%	DGQVINETSQHHDDLE	1,837
		DNLAEDIMR	1,077
		EEAENTLQSFR	1,324
		EMEENFAVEAANYQDTIGR	2,187
		ETNLDSLPLVDTH	1,454
		FADLSEAANR	1,094
		GTNESLER	905
		LHEEEIQELQAQIQEQH	2,102

		LHEEEIQELQAQIQEQHVQIDVDVSKPDL TAAL	3,767
		LHEEEIQELQAQIQEQHVQIDVDVSKPDL TAALR	3,923
		LQEEMLQR	1,047
		MALDIEIATYR	1,296
		MEENFAVEAANYQDTIGR	2,058
		NLQEAEEWYK	1,310
		QDVDNASLAR	1,089
		TYSLGSALR	968
		VELQELNDR	1,116
		YQDLLNVK	993
Fibrinogen gamma chain	30.90%	AGGDAGDAFDGFDFGDDPSDK	2,076
		AIQLTYNPDESSKPNMIDAATLK	2,536
		DTVQIHDITGK	1,227
		EGFGHLSPTGTTEFWLGNEK	2,207
		GGDAGDAFDGFDFGDDPSDK	2,005
		LDGSVDFK	880
		NGYDNGIIWATWK	1,538
		TSTADYAMFK	1,151
		VELEDWNGR	1,118
		YEASILTHDSSIR	1,492

		YLQEIYNSNNQK	1,514
Alpha-1-antitrypsin	23.40%	DTEEEDFHVDQVTTVK	1,892
		LQHLENELTHDIITK	1,804
		SVLGQLGITK	1,016
		TDTSHHDQDHPTFNK	1,780
		TLNQPDSQLQLTTGNGLFLSEGLK	2,574
		VFSNGADLSGVTEEAPLK	1,834
Myosin-9	12.50%	ALEEAMEQK	1,048
		ANLQIDQINTDLNLER	1,870
		AQLEEQLDNETK	1,418
		DFSALESQLQDTQELLQEENR	2,493
		DLEAHIDSANK	1,213
		EEVGEEAIVELVENGK	1,744
		ELEDATETADAMNR	1,566
		EQADFAIEALAK	1,306
		HEAMITDLEER	1,344
		HSQAVEELAEQLEQTK	1,840
		IAQLEEELEEEQGNTELINDR	2,472
		IAQLEEQLDNETK	1,531
		LEGDSTDLSDQIAELQAQIAELK	2,487
		NLPIYSEEIVEMYK	1,744
		NTDQASMPDNTAAQK	1,592

		QLLQANPILEAFGNAK	1,710
		TELEDTLDSTAAQQELR	1,920
Collagen alpha-2(I) chain	27.20%	EGPVGLPGIDGR	1,183
		GAPGPDGNNGAQGPPGPQGVQGGK	2,146
		GDGGPPGMTGFPGAAGR	1,550
		GEAGAAGPAGPAGPR	1,236
		GENGVVGPTGPVGAAGPAGPNGPPGPAGSR	2,567
		GEPGAPGENGTPGQTGAR	1,701
		GEPGNIGFPGPK	1,202
		GEPGSAGPQGPPGPSGEEGK	1,824
		GEPGVVGAVGTAGPSGPSGLPGER	2,137
		GETGPSGPVGPAGAVGPR	1,563
		GIPGPVGAAGATGAR	1,268
		GLPGVAGAVGEPGPLGIAGPPGAR	2,115
		GPAGPSGPAGK	895
		GPKGENGVVGPTGPVGAAGPAGPNGPPGPAGSR	2,865
		GPNGEAGSAGPPGPPGLR	1,620
		GPPGAVGSPGVNGAPGEAGR	1,752
		GPPGESGAAGPTGPIGSR	1,581
		GPSGPPGPDGNK	1,096

		GPSGPPGPDGNKGEPGVVGAVGTAGPSG	
		PSGLPGER	3,214
		GPVGPAGAVGPR	1,035
		NSIAYMDEETGNLK	1,585
		PGPIGPAGAR	893
		TGEVGAVGPPGFAGEK	1,489
		TGPPGPSGISGPPGPPGPAGK	1,846
Alpha-1-acid			
glycoprotein 1	29.40%	NWGLSVYADKPETTK	1,709
		SDVVYTDWK	1,113
		TEDTIFLR	995
		TYMLAFDVNDEK	1,446
		YVGGQEHFAHLLILR	1,753
Alpha-actinin-1	5.83%	ALDFIASK	864
		DYETATLSEIK	1,270
		MLDAEDIVGTARPDEK	1,760
		VLAVNQENEQLMEDYEK	2,052
Prothymosin			
alpha	33.30%	AAEDDEDDDVDTK	1,438
		EVVEEAENGR	1,132
		SDAAVDTSSEITTK	1,467
Complement C3	10.70%	ENEGFTVTAEGK	1,282
		FVTVQATFGTQVVEK	1,654

		GLEVTITAR	960
		IPIEDGSGEVVLSR	1,471
		QKPDGVFQEDAPVIHQEMIGGLR	2,564
		SEFPESWLWNVEDLK	1,879
		SGSDEVQVGQQR	1,290
		SNLDEDIIAEENIVSR	1,817
		TGLQEVEVK	1,003
		TIYTPGSTVLYR	1,371
		VPVAVQGEDTVQSLTQGDGVAK	2,198
		VQLSNDFDEYIMAIEQTIK	2,257
Tubulin alpha-1B chain	20.40%	AVFVDLEPTVIDEVR	1,702
		DYEEVGVDSVEGEGEEEGEEY	2,349
		EDAANNYAR	1,023
		EIIDLVLDR	1,086
		TIGGGDDSFNTFFSETGAGK	2,008
		VGINYQPPTVVPGGDLAK	1,825
Fibrinogen beta chain	34.60%	AHYGGFTVQNEANK	1,536
		DNENVVNEYSSELEK	1,769
		EDGGGWWYNR	1,240
		EEAPSLRPAPPPISGGGYR	1,951
		GGETSEMYLIQPDSSVK	1,841

		GGETSEMYLIQPDSSVKPYR	2,257
		HGTDDGVVWMNWK	1,545
		HQLYIDETVNSNIPTNLR	2,127
		MGPTELLIEMEDWK	1,708
		NSVDELNNNVEAVSQTSSSSFQY	2,519
		QDGSVDFGR	980
		TMTIHNGMFFSTYDR	1,821
Collagen alpha-2(VI) chain	5.40%	DVTVTAIGIGDMFHEK	1,733
		GPDGYPGEAGSPGER	1,478
		QFVPQFISQLQNEFYLDQVALSWR	2,956
Collagen alpha-1(III) chain	26.40%	DGNPGSDGLPGR	1,174
		DGPPGPAGNTGAPGSPGVSGPK	1,922
		DGSPGEPGANGLPGAAGER	1,757
		GAAGPPGPPGAAGTPGLQGMPGER	2,164
		GEAGIPGVPGAK	1,085
		GEGGAPGLPGIAGPR	1,338
		GEGGPPGVAGPPGGSGPAGPPGPQGVK	2,299
		GEMGPAGIPGAPGLMGAR	1,687
		GENGLPGENGAPGPMGPR	1,739
		GESGPAGPAGAPGPAGSR	1,509
		GETGPPGPAGFPGAPGQNGEPGGK	2,197

		GEVGPAGSPGSNGAPGQR	1,627
		GGPGGPGPQGPPGK	1,208
		GPAGPNGIPGEK	1,110
		GPPGLAGAPGLR	1,095
		GPPGPAGANGAPGLR	1,321
		GPPGPQGLPGLAGTAGEPGR	1,834
		GPTGPIGPPGPAGQPGDK	1,632
		GPVGPSGPPGK	950
		GSPGAQGPPGAPGPLGIAGITGAR	2,104
		GSPGGPGAAGFPGAR	1,304
		NGETGPQGPPGPTGPGGDK	1,720

1 These data were generated from a single patient.

Supplemental Table 2: Adjacent Dermis[1]

Protein name	Sequence coverage	Peptide sequence	Calculated peptide mass (Da)
Gelsolin	8.44%	AGALNSNDAFVLK	1,320
		FVIEEVPGELMQEDLATDDVMLLDTWDQVFV WVGK	4,067
		TPSAAYLWVGTGASEAEK	1,838
Collagen alpha-1(I) chain	39.50%	DGEAGAQGPPGPAGPAGER	1,691
		DGLNGLPGPIGPPGPR	1,546
		EGAPGAEGSPGR	1,116
		GANGAPGIAGAPGFPGAR	1,586
		GDAGAPGAPGSQGAPGLQGMPGER	2,199
		GDAGPPGPAGPAGPPGPIGNVGAPGAK	2,281
		GEAGPQGPR	868
		GEPGPPGPAGAAGPAGNPGADGQPGAK	2,300
		GEPGPPGPAGFAGPPGADGQPGAK	2,134
		GEPGPVGVQGPPGPAGEEGK	1,832
		GEPGSPGENGAPGQMGPR	1,743
		GESGPSGPAGPTGAR	1,298
		GETGPAGPPGAPGAPGAPGPVGPAGK	2,137
		GETGPAGRPGEVGPPGPPGPAGEK	2,216

		GFPGADGVAGPK	1,089
		GFPGLPGPSGEPGK	1,297
		GFSGLDGAK	851
		GFSGLQGPPGPPGSPGEQGPSGASGPAGPR	2,657
		GLTGPIGPPGPAGAPGDK	1,591
		GLTGPIGPPGPAGAPGDKGESGPSGPAGPTGAR	2,869
		GLTGSPGSPGPDGK	1,243
		GNDGATGAAGPPGPTGPAGPPGFPGAVGAK	2,516
		GPAGPQGPR	836
		GPPGPMGPPGLAGPPGESGR	1,817
		GPPGSAGAPGK	911
		GPSGPQGPGGPPGPK	1,303
		GQAGVMGFPGPK	1,146
		GSAGPPGATGFPGAAGR	1,460
		GSEGPQGVR	886
		GSPGADGPAGAPGTPGPQGIAGQR	2,073
		GSPGEAGRPGEAGLPGAK	1,656
		GVQGPPGPAGPR	1,106
		GVVGLPGQR	899
		PGEAGLPGAK	928
		STGGISVPGPMGPSGPR	1,554
Hemoglobin	21.80%	AGEYGAEALER	1,166

subunit alpha			
		TYFPHFDLSHGSAQVK	1,834
		VGAHAGEYGAEALER	1,530
Annexin A2	12.70%	AEDGSVIDYELIDQDAR	1,909
		DALNIETAIK	1,088
		SALSGHLETVILGLLK	1,651
Alpha-1-antitrypsin	25.10%	DTEEEDFHVDQVTTVK	1,892
		ELDRDTVFALVNYIFFK	2,090
		LQHLENELTHDIITK	1,804
		TDTSHHDQDHPTFNK	1,780
		TLNQPDSQLQLTTGN	1,630
		TLNQPDSQLQLTTGNGLFLSEGLK	2,574
		VFSNGADLSGVTEEAPLK	1,834
Cofilin-1	29.50%	EILVGDVGQTVDDPYATFVK	2,166
		KEDLVFIFWAPESAPLK	1,990
		LGGSAVISLEGK	1,131
Apolipoprotein A-I	14.60%	EQLGPVTQEFWDNLEK	1,933
		QGLLPVLESFK	1,231
		VSFLSALEEYTK	1,387
Myosin-9	7.30%	ANLQIDQINTDLNLER	1,870
		EQADFAIEALAK	1,306

		IAEFTTNLTEEEEK	1,654
		IAQLEEELEEEQGNTELINDR	2,472
		IAQLEEQLDNETK	1,531
		LQVELDNVTGLLSQSDSK	1,946
		LTEMETLQSQLMAEK	1,752
		TELEDTLDSTAAQQELR	1,920
		TQLEELEDELQATEDAK	1,962
Alpha-1-antichymotrypsin	11.10%	ADLSGITGAR	961
		AVLDVFEEGTEASAATAVK	1,908
		LYGSEAFATDFQDSAAAK	1,892
Neuroblast differentiation-associated protein AHNAK	2.65%	AEGPDVAVDLPK	1,211
		GEGPDVDVNLPK	1,240
		GEGPDVDVTLPK	1,227
		GGADVSGGVSAPDISLGEGHLSVK	2,209
		GGVQVPAVDISSSLGGR	1,599
		GPQITGPSLEGDLGLK	1,582
		ISMPDIDLNLTGPK	1,514

		MDVNVGDIDIEGPEGK	1,688
		QGFDLNVPGGEIDASLK	1,760
		VDIEGPDVNIEGPEGK	1,668
Pyruvate kinase isozymes M1/M2	16.20%	DPVQEAWAEDVDLR	1,643
		FDEILEASDGIMVAR	1,666
		GADFLVTEVENGGSLGSK	1,780
		GVNLPGAAVDLPAVSEK	1,637
		IYVDDGLISLQVK	1,463
		PVAVALDTK	914
TRYP_PIG TRYPSIN PRECURSOR	25.50%	GNTLDNDIMLIK	1,347
		IITHPNFNGNTLDNDIMLIK	2,299
		LGEHNIDVLEGNEQ	1,567
		LGEHNIDVLEGNEQFIN	1,941
		LGEHNIDVLEGNEQFINAAK	2,211
		VATVSLPR	843
		VNWIQQTIAAN	1,258
Ig lambda-2 chain C regions	41.50%	AAPSVTLFPPSSEELQANK	1,986
		AGVETTTPSK	991

		YAASSYLSLTPEQWK	1,744
Actin, aortic smooth muscle	38.20%	DFENEMATAASSSSLEK	1,817
		DIKEKLCYVALDFENEMATAASSSSLEK	3,150
		DLTDYLMK	1,014
		DLYANNVLSGGTTMYPGIADR	2,228
		DSYVGDEAQSK	1,199
		EITALAPSTMK	1,162
		SYELPDGQVITIGNER	1,791
		TTGIVLDSGDGVTHNVPIYEGYALPH	2,725
		YSVWIGGSILASLSTFQQMWISK	2,602
Fibrinogen gamma chain	11.70%	EGFGHLSPTGTTEFWLGNEK	2,207
		LDGSVDFK	880
		YEASILTHDSSIR	1,492
		YLQEIYNSNNQK	1,514
Tubulin alpha-1B chain	9.31%	AVFVDLEPTVIDEVR	1,702
		EIIDLVLDR	1,086
		VGINYQPPTVVPGGDLAK	1,825
Decorin	16.40%	DLPPDTTLLDLQNNK	1,697
		NLHALILVNNK	1,249
		SSGIENGAFQGMK	1,326

		VTFNGLNQMIVIELGTNPLK	2,201
ATP synthase subunit alpha, mitochondrial	7.23%	ILGADTSVDLEETGR	1,576
		TGTAEMSSILEER	1,424
		TSIAIDTIINQK	1,317
Collagen alpha-1(VI) chain	14.30%	DAEEAISQTIDTIVDMIK	1,992
		GLEQLLVGGSHLK	1,351
		IALVITDGR	958
		LLLFSDGNSQGATPAAIEK	1,932
		SDEVEIIQGLTR	1,360
		SESIGLQNFEIAK	1,436
		SLQWMAGGTFTGEALQYTR	2,117
		TAEYDVAYGESHLFR	1,758
		VFSVAITPDHLEPR	1,581
		YLIVVTDGHPLEGYK	1,704
Ig gamma-1 chain C region	13.60%	DTLMISR	835
		GFYPSDIAVEWESNGQPENNYK	2,544
		VVSVLTVLHQDWLNGK	1,808
Fibrinogen beta chain	19.30%	DNDGWLTSDPR	1,276

		DNENVVNEYSSELEK	1,769
		GGETSEMYLIQPDSSVK	1,841
		GGETSEMYLIQPDSSVKPYR	2,257
		HGTDDGVVWMNWK	1,545
		MGPTELLIEMEDWK	1,692
		NSVDELNNNVEAVSQTSSSSFQ	2,356
Annexin A1	14.70%	DITSDTSGDFR	1,214
		GGPGSAVSPYPTFNPSSDVAALHK	2,356
		SEDFGVNEDLADSDAR	1,740
Collagen alpha-1(XIV) chain	2.39%	IGILITDGK	930
		LQEIEGPSVSIMEK	1,560
		VTVTPIYTDGEGVSVSAPGK	1,977
Heat shock protein HSP 90-alpha	8.20%	LGLGIDEDDPTADDTSAAVTEEMPPLEGDDDTSR	3,548
		SLTNDWEDHLAVK	1,528
		TLTIVDTGIGMTK	1,350
Serotransferrin	8.60%	DGAGDVAFVK	978
		DSGFQMNQLR	1,196
		EDLIWELLNQAQEHFGK	2,070
		HSTIFENLANK	1,274
		MYLGYEYVTAIR	1,479

Mimecan	17.80%	DFADIPNLR	1,061
		LDFTGNLIEDIEDGTFSK	2,014
		LEGNPIVLGK	1,040
		LSLLEELSLAENQLLK	1,813
Histone H1.4	9.59%	ASGPPVSELITK	1,199
		SGPPVSELITK	1,128
		SGVSLAALK	846
Fibronectin	1.97%	DLQFVEVTDVK	1,293
		SYTITGLQPGTDYK	1,544
		TEIDKPSQMQVTDVQDNSISVK	2,462
Haptoglobin	6.40%	TEGDGVYTLNDK	1,312
		TEGDGVYTLNDKK	1,440
		TEGDGVYTLNNEK	1,440
Collagen alpha-3(VI) chain	11.20%	ALILVGLER	984
		DEVQNAVQR	1,059
		DSFQEVLR	994
		GAQGPAGPAGPPGLIGEQGISGPR	2,157
		GFMYDRPLRLNLLDLDYELAEQLDNIAEK	3,500
		HIVLKPPTIVTQVIEVNK	2,028
		IEDGVLQFLVLLVAGR	1,742
		IEDGVPQHLVLVLGGK	1,674
		IGDLHPQIVNLLK	1,460

		IIDELNVKPEGTR	1,484
		ITEGVPQLLIVLTADR	1,738
		LLVLITGGK	914
		LNLLDLDYELAEQLDNIAEK	2,332
		LQPVLQPLPSPGVGGK	1,587
		LVDYLDVGFDTTR	1,514
		NADPAELEQIVLSPAFILAAESLPK	2,636
		NLQVALTSK	974
		NNLFTSSAGYR	1,230
		QLGTVQQVISER	1,358
		QQSLETAMSFVAR	1,468
		SDDEVDDPAVELK	1,432
		SSGIVSLGVGDR	1,147
		SVEDAQDVSLALTQR	1,632
		TELQTITNDPR	1,288
		VAVVTYNNEVTTEIR	1,708
		VVESLDVGQDR	1,217
Collagen alpha-2(I) chain	40.00%	EGPVGLPGIDGR	1,183
		GAAGLPGVAGAPGLPGPR	1,563
		GAPGPDGNNGAQGPPGPQGVQGGK	2,146
		GDGGPPGMTGFPGAAGR	1,534
		GEAGAAGPAGPAGPR	1,236

		GEIGAVGNAGPAGPAGPR	1,548
		GENGVVGPTGPVGAAGPAGPNGPPGPAGSR	2,567
		GEPGNIGFPGPK	1,202
		GEPGSAGPQGPPGPSGEEGK	1,824
		GEPGVVGAVGTAGPSGPSGLPGER	2,121
		GEQGPPGPPGFQGLPGPSGPAGEVGKPGER	2,858
		GETGPSGPVGPAGAVGPR	1,563
		GEVGLPGLSGPVGPPGNPGANGLTGAK	2,418
		GEVGPAGPNGFAGPAGAAGQPGAK	2,051
		GHNGLQGLPGIAGHHGDQGAPGSVGPAGPR	2,800
		GLHGEFGLPGPAGPR	1,494
		GLPGSPGNIGPAGK	1,254
		GLPGVAGAVGEPGPLGIAGPPGAR	2,115
		GPAGPSGPAGK	895
		GPKGENGVVGPTGPVGAAGPAGPNGPPGPAGSR	2,865
		GPPGAVGSPGVNGAPGEAGR	1,752
		GPPGESGAAGPTGPIGSR	1,581
		GPSGEAGTAGPPGTPGPQGLLGAPGILGLPGSR	2,957
		GPSGPPGPDGNKGEPGVVGAVGTAGPSGPSGLPGER	3,214
		GSDGSVGPVGPAGPIGSAGPPGFPGAPGPK	2,573
		GVVGPQGAR	840

		TGEVGAVGPPGFAGEK	1,489
		TGHPGTVGPAGIR	1,236
		VGAPGPAGAR	868
Plasma protease C1 inhibitor	8.40%	GVTSVSQIFHSPDLAIR	1,827
		LEDMEQALSPSVFK	1,594
		TNLESILSYPK	1,265
Actin, cytoplasmic 1	50.10%	DLTDYLMK	1,014
		DLYANTVLSGGTTMYPGIADR	2,215
		DSYVGDEAQSK	1,199
		EITALAPSTMK	1,162
		MTQIMFETFNTPAMYVAIQAVLSLYASGR	3,254
		QEYDESGPSIVHR	1,517
		SYELPDGQVITIGNER	1,791
		TTGIVMDSGDGVTHTVPIYEGY	2,312
		TVLSGGTTMYPGIADR	1,639
		VAPEEHPVLLTEAPLNPK	1,954
		YPIEHGIVTNWDDMEK	1,963
		YSVWIGGSILASLSTFQQMWISK	2,602
Filamin-A	2.12%	DAGYGGLSLSIEGPSK	1,551
		FNEEHIPDSPFVVPVASPSGDAR	2,467

		VTAQGPGLEPSGNIANK	1,653
Vimentin	35.00%	DGQVINETSQHHDDLE	1,837
		DNLAEDIMR	1,077
		EMEENFAVEAANYQDTIGR	2,187
		EYQDLLNVK	1,122
		ILLAELEQLK	1,170
		LHEEEIQELQAQIQEQH	2,102
		LHEEEIQELQAQIQEQHVQIDVDVSKPDLTAALR	3,923
		LLQDSVDFSLADAINTEFK	2,126
		LQDEIQNMK	1,119
		LQEEMLQR	1,047
		MALDIEIATYR	1,296
		NLQEAEEWYK	1,310
		VELQELNDR	1,116
Collagen alpha-2(VI) chain	10.80%	DVTVTAIGIGDMFHEK	1,733
		DYDSLAQPGFFDR	1,531
		IDSLSSFK	896
		NDYATMLPDSTEIDQDTINR	2,312
		NLEWIAGGTWTPSALK	1,744
		QNVVPTVLALGSDVDMDVLTTLSLGDR	2,828
		VFAVVITDGR	1,077

Myosin light polypeptide 6	22.50%	ALGQNPTNAEVLK	1,355
		EGNGTVMGAEIR	1,234
		HVLVTLGEK	996
Complement C3	10.30%	ENEGFTVTAEGK	1,282
		EVVADSVWVDVK	1,346
		FVTVQATFGTQVVEK	1,654
		GLEVTITAR	960
		ILLQGTPVAQMTEDAVDAER	2,157
		LESEETMVLEAHDAQGDVPVTVTVHDFPGK	3,251
		SGSDEVQVGQQR	1,290
		TGLQEVEVK	1,003
		TVMVNIENPEGIPVK	1,640
		VHQYFNVELIQPGAVK	1,842
		VPVAVQGEDTVQSLTQGDGVAK	2,198
Collagen alpha-1(III) chain	32.70%	DGNPGSDGLPGR	1,174
		DGPPGPAGNTGAPGSPGVSGPK	1,922
		DGSPGEPGANGLPGAAGER	1,757
		GAAGPPGPPGAAGTPGLQGMPGER	2,148
		GDKGEPGGPGADGVPGK	1,511
		GDTGPPGPQGLQGLPGTGGPPGENGKPGEPGP	3,068

		K	
		GEAGIPGVPGAK	1,085
		GEGGAPGLPGIAGPR	1,338
		GEGGPPGVAGPPGGSGPAGPPGPQGVK	2,283
		GEMGPAGIPGAPGLMGAR	1,671
		GENGLPGENGAPGPMGPR	1,739
		GESGKPGANGLSGER	1,432
		GESGPAGPAGAPGPAGSR	1,509
		GETGPPGPAGFPGAPGQNGEPGGK	2,181
		GEVGPAGSPGSNGAPGQR	1,627
		GFPGNPGAPGSPGPAGQQGAIGSPGPAGPR	2,690
		GGPGGPGPQGPPGK	1,208
		GLAGPPGMPGPR	1,139
		GPPGLAGAPGLR	1,095
		GPPGPQGLPGLAGTAGEPGR	1,818
		GPTGPIGPPGPAGQPGDKGEGGAPGLPGIAGPR	2,950
		GPVGPSGPPGK	966
		GQPGVMGFPGPK	1,220
		GSPGAQGPPGAPGPLGIAGITGAR	2,104
		GSPGGPGAAGFPGAR	1,304
		NGETGPQGPPGPTGPGGDK	1,720
Fibrinogen alpha chain	5.08%	ADSGEGDFLAEGGGVR	1,537

		HPDEAAFFDTASTGK	1,594
		MKPVPDLVPGNFK	1,442
Elongation factor 1-alpha 1	13.40%	IGGIGTVPVGR	1,026
		THINIVVIGHVDSGK	1,589
		VETGVLKPGMVVTFAPVNVTTEVK	2,515
		YYVTIIDAPGHR	1,405
Prelamin-A/C	12.30%	AGQVVTIWAAGAGATHSPPTDLVWK	2,533
		DLEDSLAR	918
		EAALSTALSEK	1,120
		LADALQELR	1,029
		NSNLVGAAHEELQQSR	1,753
		SNEDQSMGNWQIK	1,537
Alpha-2-macroglobulin	7.19%	FEVQVTVPK	1,047
		LHTEAQIQEEGTVVELTGR	2,110
		LPPNVVEESAR	1,211
		LTAQPAPTSEDLTSATNIVK	2,057
		NEDSLVFVQTDK	1,395
		VGFYESDVMGR	1,260
		VVSMDENFHPLNELIPLVYIQDPK	2,810
Serum albumin	28.10%	AVMDDFAAFVEK	1,343
		DDNPNLPR	940

		DLGEENFK	951
		DVFLGMFLYEYAR	1,624
		EFNAETFTFH	1,243
		FEQLGEYK	1,013
		FQNALLVR	961
		FYAPELLFFAK	1,346
		HPDYSVVLLLR	1,312
		HPYFYAPELLFFAK	1,743
		KVPQVSTPTLVEVSR	1,640
		LVAASQAALGL	1,014
		LVNEVTEFAK	1,150
		QTALVELVK	1,001
		RHPDYSVVLLLR	1,468
		SLHTLFGDK	1,018
		VFDEFKPLVEEPQNLIK	2,045
		VPQVSTPTLVEVSR	1,512
		YLYEIAR	927
Alpha-1-acid glycoprotein 1	21.90%	NWGLSVYADKPETTK	1,709
		SDVVYTDWK	1,113
		TEDTIFLR	995
		TYMLAFDVNDEK	1,446
Lumican	21.30%	EYLDLSFNQIAR	1,469

		FNALQYLR	1,025
		ISNIPDEYFK	1,226
		LKEDAVSAAFK	1,179
		NIPTVNENLENYYLEVNQLEK	2,536
		NNQIDHIDEK	1,226
Hemoglobin subunit beta	25.90%	SAVTALWGK	933
		SDGLAHLDNLK	1,183
		VLGAFSDGLAHLDNLK	1,670
		VNVDEVGGEALGR	1,315

1 These data were generated from a single patient.

Supplemental Table 3: Identified proteins from hydrogel mediated on tissue digestion, wound bed region.[1]

Protein name	Accession numbers	Molecular weight (Da)	Number of unique peptides[2]	Number of unique spectra[3]	Number of total spectra[4]
14-3-3 protein zeta/delta	P63104	28,037	4	4	4
78 kDa glucose-regulated protein	P11021	72,335	5	5	5
Actin, aortic smooth muscle	P62736	42,010	4	5	5
Actin, cytoplasmic 1	P60709	41,794	13	16	23
Alpha-1-acid glycoprotein 1	P02763	23,512	5	5	5
Alpha-1-antichymotrypsin	P01011	47,653	4	4	4
Alpha-1-antitrypsin	P01009	46,738	6	8	10
Alpha-2-macroglobulin	P01023	163,290	6	6	7
Alpha-actinin-1	P12814	103,061	3	3	3
Alpha-enolase	P06733	47,170	3	3	3
Annexin A1	P04083	38,716	3	3	3
Annexin A2	P07355	38,606	5	5	6
Annexin A6	P08133	75,878	3	3	3

Caldesmon	Q05682	62,712	3	3	3
Ceruloplasmin	P00450	108,823	3	3	3
Collagen alpha-1(I) chain	P02452	138,941	29	34	41
Collagen alpha-1(III) chain	P02461	138,565	22	23	33
Collagen alpha-1(VI) chain	P12109	108,531	3	4	4
Collagen alpha-1(XII) chain	Q99715	333,201	4	4	4
Collagen alpha-2(I) chain	P08123	129,315	24	25	30
Collagen alpha-2(VI) chain	P12110	108,581	3	4	4
Collagen alpha-3(VI) chain	P12111	343,667	18	21	22
Complement C3	P01024	187,149	12	14	15
Endoplasmin	P14625	92,472	3	3	3
Fibrinogen alpha chain	P02671	94,973	12	13	14
Fibrinogen beta chain	P02675	55,929	12	14	14
Fibrinogen gamma chain	P02679	51,513	11	13	15
Fibronectin	P02751	243,228	8	9	10
Fibulin 1	B1AHL2	78,327	3	3	3
Filamin-A	P21333	280,729	4	4	4

Heat shock protein HSP 90-alpha	P07900	84,663	4	4	4
Hemoglobin subunit alpha	P69905	15,258	3	4	6
Hemoglobin subunit beta	P68871	15,998	5	5	5
Histone H1.4	P10412	21,867	3	3	3
Ig kappa chain C region	P01834	11,609	3	4	8
Myosin-9	P35579	226,538	17	18	18
Myristoylated alanine-rich C-kinase substrate	P29966	31,554	3	3	3
Neuroblast differentiation-associated protein AHNAK	Q09666	629,104	3	3	3
Peptidyl-prolyl cis-trans isomerase B	P23284	23,743	4	4	4
Prelamin-A/C	P02545	74,141	3	3	3
Prothymosin alpha	P06454	12,203	3	3	3
Pyruvate kinase isozymes M1/M2	P14618	57,938	7	7	7
Serotransferrin	P02787	77,064	3	3	3
Serpin H1	P50454	46,442	4	5	5
Serum albumin	P02768	69,367	16	18	21

Tenascin	P24821	240,850	3	3	3
Transketolase	P29401	68,816	3	3	3
Triosephosphate isomerase	P60174	30,791	3	3	3
Tubulin alpha-1B chain	P68363	46,298	6	6	6
Tubulin beta chain	P07437	49,671	4	5	5
Vimentin	P08670	53,653	18	18	21

[1] These data were generated from a single patient. Proteins listed were represented by ≥ 3 unique peptides. The number of unique spectra and the number of total spectra recorded per protein are also listed. Protein names marked in bold and highlighted in blue were uniquely detected within the wound bed region.

[2]The designation “number of unique peptides” corresponds to the number of distinct amino acid sequences represented in the peptides that match to a protein.

[3]The designation “number of unique spectra” means that two spectra are unique if they match different peptides or match two different charge states of the same peptide or match both a peptide and a modified form of the peptide.

[4]The designation “number of total spectra” represents the total number of spectra which is assigned to the protein in question.

Supplemental Table 4: identified proteins from hydrogel mediated on tissue digestion, adjacent dermis region.[1]

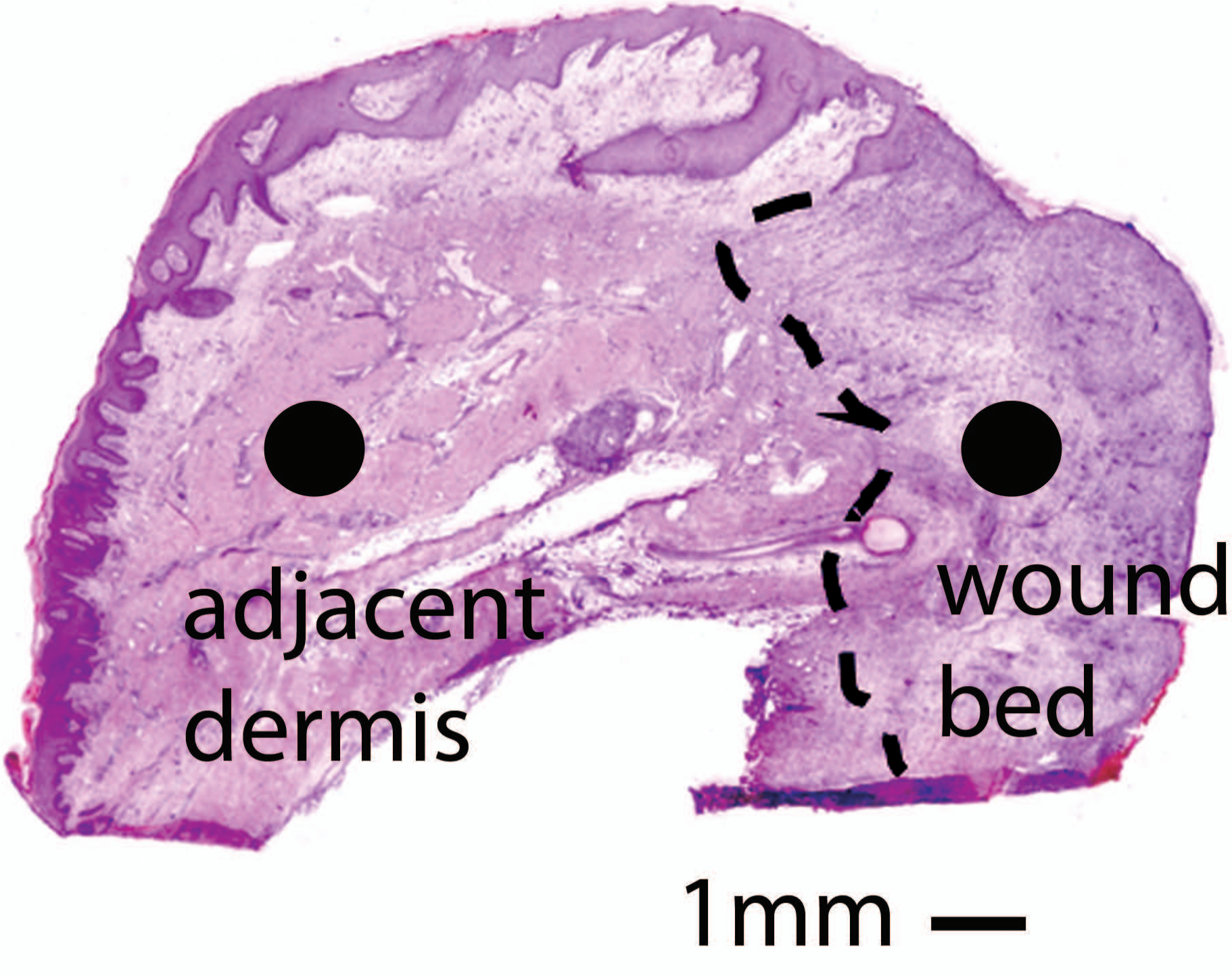
Protein name	Accession numbers	Molecular weight (Da)	Number of unique peptides[2]	Number of unique spectra[3]	Number of total spectra[4]
Actin, aortic smooth muscle	P62736	42,010	4	4	4
Actin, cytoplasmic 1	P60709	41,794	12	16	19
Alpha-1-acid glycoprotein 1	P02763	23,512	4	4	5
Alpha-1-antichymotrypsin	P01011	47,653	3	3	3
Alpha-1-antitrypsin	P01009	46,738	7	9	10
Alpha-2-macroglobulin	P01023	163,290	7	7	8
Annexin A1	P04083	38,716	3	3	3
Annexin A2	P07355	38,606	3	4	4
Apolipoprotein A-I	P02647	27,910	3	3	3
ATP synthase subunit alpha, mitochondrial	P25705	59,752	3	3	3
Cofilin-1	P23528	18,503	3	3	3
Collagen alpha-1(I) chain	P02452	138,941	35	44	120

Collagen alpha-1(III) chain	P02461	138,565	26	34	69
Collagen alpha-1(VI) chain	P12109	108,531	10	13	14
Collagen alpha-1(XIV) chain	Q05707	193,516	3	3	3
Collagen alpha-2(I) chain	P08123	129,315	29	35	52
Collagen alpha-2(VI) chain	P12110	108,581	7	7	7
Collagen alpha-3(VI) chain	P12111	343,667	26	31	34
Complement C3	P01024	187,149	11	11	11
Decorin	P07585	39,748	4	4	5
Elongation factor 1-alpha 1	P68104	50,141	4	4	4
Fibrinogen alpha chain	P02671	94,973	3	5	5
Fibrinogen beta chain	P02675	55,929	7	7	7
Fibrinogen gamma chain	P02679	50,324	4	6	6
Fibronectin	P02751	243,228	3	3	3
Filamin-A	P21333	280,729	3	3	3
Gelsolin	P06396	85,698	3	3	3
Haptoglobin	P00738	45,205	3	3	12
Heat shock protein HSP 90-alpha	P07900	84,663	3	3	3

Hemoglobin subunit alpha	P69905	15,258	3	4	6
Hemoglobin subunit beta	P68871	15,998	4	6	7
Histone H1.4	P10412	21,867	3	3	3
Ig gamma-1 chain C region	P01857	36,105	3	5	6
Ig lambda-2 chain C regions	P0CG05	11,293	3	3	4
Lumican	P51884	38,432	6	6	6
Mimecan	P20774	33,925	4	5	5
Myosin light polypeptide 6	P60660	17,089	3	3	3
Myosin-9	P35579	226,538	9	9	9
Neuroblast differentiation-associated protein AHNAK	Q09666	629,104	10	10	10
Plasma protease C1 inhibitor	P05155	59,493	3	4	4
Prelamin-A/C	P02545	74,141	6	6	6
Pyruvate kinase isozymes M1/M2	P14618	57,938	6	6	6
Serotransferrin	P02787	77,064	5	7	7
Serum albumin	P02768	69,367	19	28	44
Tubulin alpha-1B chain	P68363	50,152	3	3	3

Vimentin	P08670	53,653	13	14	20

[1] These data were generated from a single patient.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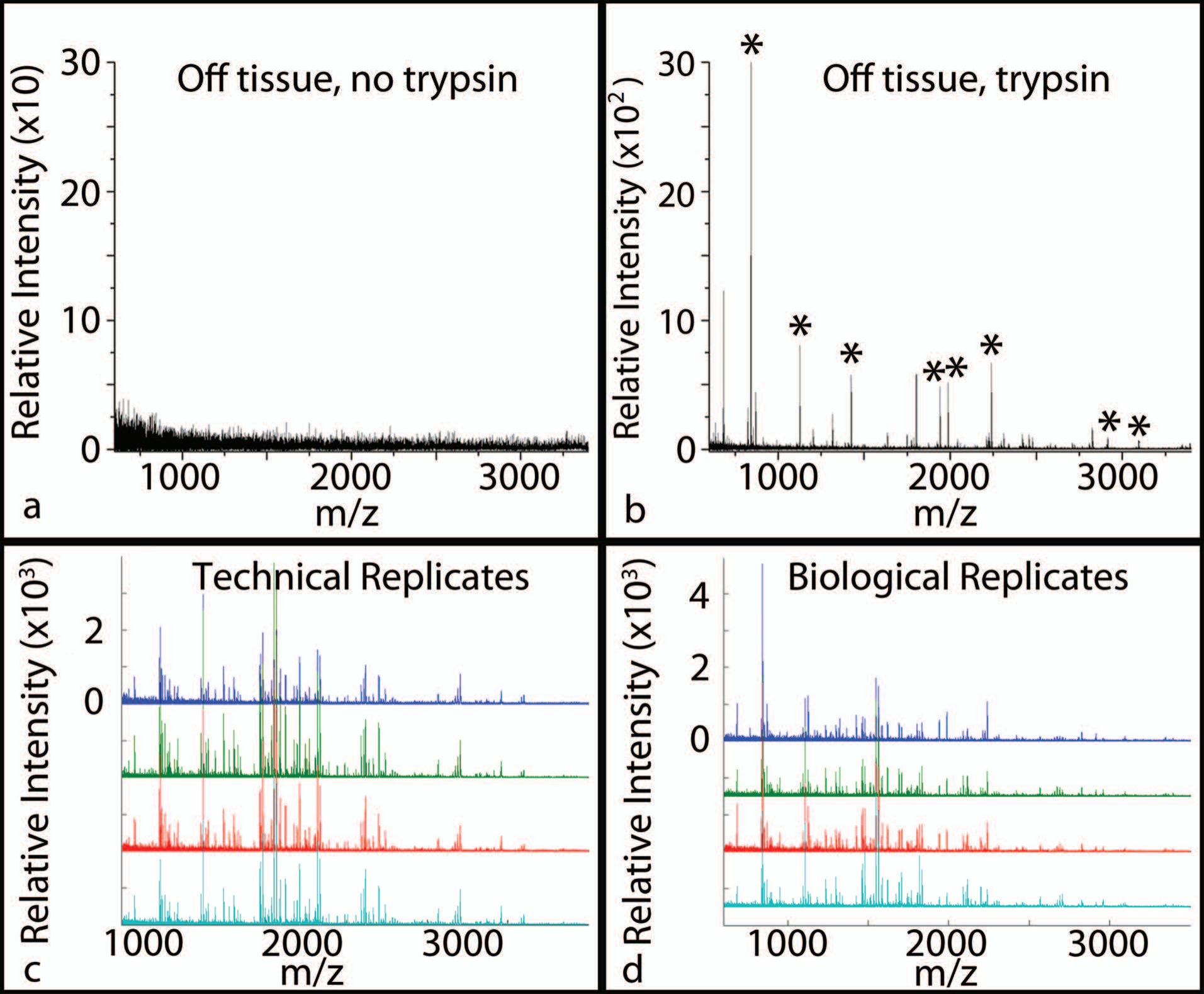
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0
1000
2000
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a
Off tissue, trypsin
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Technical Replicates
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Relative Intensity (x10³)
4
2
0
1000
2000
3000
m/z
d

Supplemental Figure Legends

Supplemental Figure 1: H&E of a chronic ulcer. Dotted line divides the wound bed from the adjacent dermis. Black dots represent locations of hydrogel placement to scale.

Supplemental Figure 2: MALDI MS spectra a) from off tissue hydrogel without trypsin; b) from off tissue hydrogel loaded with trypsin; (*) signals are related to trypsin autolysis products. Displays show blank experiments to further corroborate the reliability of the hydrogel network method on FFPE tissues; For c and d, the spectra are stacked for easy visualization and comparison between replicates. The values along the y-axis are intended to provide scale only. c) spectra recorded from N=4 FFPE serial sections, from the same patient and submitted to the hydrogel mediated digestion. d) spectra recorded from N=4 FFPE tissues, from 4 different patients displaying a comparable clinical situation and submitted to the hydrogel mediated digestion. The spectra are stacked for easy visualization and comparison between biological replicates.