

Supplemental Table 1: NTHI 86-028NP OMV proteins identified by LC-MS/MS.

Identified Proteins	Gene Number	Accession Number	Molecular Weight	Protein Hits ¹
Outer membrane protein P2 precursor	NTHI0225	68056946	40 kDa	135
Outer membrane protein P5	NTHI1332	68057911	38 kDa	46
Probable amino-acid ABC transporter binding protein	NTHI1243	68057836	28 kDa	34
HMW1B, OMP-85-like protein required for secretion of HMW1A and HMW2A	NTHI1984	68058015	61 kDa	34
IgA-specific serine endopeptidase	NTHI1164	68057774	197 kDa	32
L-lactate dehydrogenase	NTHI2049	68058536	42 kDa	30
HMW2B, OMP-85-like protein required for HMW1A and HMW2A secretion	NTHI1449	68058015	61 kDa	27
NAD nucleotidase	NTHI0303	68057010	66 kDa	26
Phosphate-binding periplasmic protein precursor PstS	NTHI1774	68058299	37 kDa	26
Conserved protein	NTHI1208	68057809	41 kDa	26
Probable periplasmic serine protease do/HhoA-like precursor	NTHI1905	68058410	49 kDa	25
TRAP-type C4-dicarboxylate transport system, periplasmic component	NTHI0232	68056953	36 kDa	25
Hemoglobin-haptoglobin binding protein B	NTHI0782	68057439	114 kDa	25
Heme utilization protein	NTHI1390	68057962	103 kDa	24
Putative periplasmic chelated iron binding protein	NTHI0481	68057164	32 kDa	23
2',3'-cyclic-nucleotide 2'-phosphodiesterase	NTHI0741	68057402	73 kDa	22
Periplasmic oligopeptide-binding protein	NTHI1292	68057874	61 kDa	22
Probable D-methionine-binding lipoprotein MetQ	NTHI0877	68057518	30 kDa	18
Thiamine-binding periplasmic protein	NTHI1185	68057791	37 kDa	17
High-affinity zinc uptake system protein ZnuA	NTHI0208	68056931	37 kDa	16
HMW1A, high molecular weight adhesin 1	NTHI1983	68058480	154 kDa	16
Heme-binding protein A	NTHI1021	68057646	61 kDa	15
Ribose-binding periplasmic protein	NTHI0632	68057302	30 kDa	15
Spermidine/putrescine-binding periplasmic protein 1 precursor	NTHI1823	68058340	43 kDa	14
Spermidine/putrescine-binding periplasmic protein 2 precursor	NTHI0626	68057296	40 kDa	14
D-galactose-binding periplasmic protein precursor	NTHI0987	68057616	38 kDa	10
Iron-utilization periplasmic protein hFbpA	NTHI0177	68056907	36 kDa	10
Predicted ABC-type transport system protein, periplasmic component	NTHI1707	68058243	31 kDa	10
Conserved protein	NTHI0576	68057248	20 kDa	10
Outer membrane protein P4, NADP phosphatase	NTHI0816	209447614	29 kDa	10
Outer membrane protein P1 precursor	NTHI0522	68057203	50 kDa	9
Putative ABC-type Co ²⁺ transport system, periplasmic component	NTHI1418	68057985	26 kDa	8
Probable FKBP-type peptidyl-prolyl cis-trans isomerase	NTHI0707	68057373	26 kDa	8
Elongation factor Ts	NTHI1081	68057699	30 kDa	8
Putative lipoprotein	NTHI1957	68058456	63 kDa	7
Glycerophosphoryl diester phosphodiesterase precursor	NTHI0811	68057465	42 kDa	7
Outer membrane protein 26	NTHI1083	68057701	22 kDa	6
Thiol:disulfide interchange protein DsbA	NTHI1012	68057639	23 kDa	6

Protective surface antigen D15	NTHI1084	68057702	88 kDa	6
Predicted periplasmic or secreted lipoprotein	NTHI1960	68058459	20 kDa	6
Conserved lipoprotein	NTHI0363	68057062	23 kDa	6
ATP synthase beta chain	NTHI0609	68057280	50 kDa	6
Conserved protein	NTHI0353	68057053	16 kDa	6
30S ribosomal protein S2	NTHI1080	161761272	26 kDa	6
VacJ lipoprotein	NTHI0849	68057493	28 kDa	6
Na(+)-translocating NADH-quinone reductase subunit A	NTHI0254	68056970	49 kDa	6
Elongation factor G	NTHI0747	68057408	77 kDa	6
Enolase	NTHI1103	68057718	46 kDa	6
Preprotein translocase subunit YidC	NTHI1175	68057784	61 kDa	6
Peptidyl-prolyl cis-trans isomerase D	NTHI1179	68057786	70 kDa	6
Arginine-binding periplasmic protein	NTHI1347	68057925	26 kDa	6
NAD(P) transhydrogenase subunit alpha	NTHI1802	68058322	55 kDa	6
Pyruvate dehydrogenase E1 component	NTHI1933	68058433	99 kDa	6
Probable D-methionine transport ATP-binding protein	NTHI0879	68057520	38 kDa	6
Conserved lipoprotein	NTHI0266	68056981	29 kDa	5
Conserved protein	NTHI1987	68058484	23 kDa	5
Elongation factor Tu	NTHI0712	68057378	43 kDa	4
Beta-lactamase TEM precursor	NTHI2055	156617159	32 kDa	4
TolB	NTHI0502	68057184	45 kDa	4
Survival protein SurA homolog	NTHI0588	68057259	35 kDa	4
Conserved protein	NTHI1140	68057753	21 kDa	4
Conserved protein	NTHI0267	68056982	18 kDa	4
Peroxisredoxin/glutaredoxin	NTHI0705	68057371	27 kDa	4
Anaerobic C4-dicarboxylate transporter DcuB	NTHI0902	68057542	47 kDa	4
Conserved ABC-type transport system protein	NTHI1247	68057840	24 kDa	4
Thioredoxin	NTHI0098	68056833	12 kDa	4
Na(+)-translocating NADH-quinone reductase subunit F	NTHI0259	68056975	46 kDa	4
Conserved preprotein translocase subunit YajC	NTHI0347	68057048	11 kDa	4
Heme/hemopexin-binding protein C	NTHI0369	68057068	79 kDa	4
Conserved protein	NTHI0490	68057172	23 kDa	4
Possible starvation-inducible outer membrane lipoprotein	NTHI0509	68057191	21 kDa	4
PTS system, fructose-specific IIA/FPPr component	NTHI0575	68057247	53 kDa	4
50S ribosomal protein L7/L12	NTHI0761	68057418	12 kDa	4
30S ribosomal protein S3	NTHI0945	68057578	26 kDa	4
50S ribosomal protein L17	NTHI0966	68057598	14 kDa	4
Cysteine synthase	NTHI1269	68057857	33 kDa	4
aAcetate kinase	NTHI1375	68057949	44 kDa	4
NAD(P) transhydrogenase subunit beta	NTHI1801	68058321	50 kDa	4
Molybdate-binding periplasmic protein	NTHI2000	68058496	27 kDa	4
Adhesion and penetration protein Hap	NTHI0354	68057054	155 kDa	4

50S ribosomal protein L5	NTHI0953	68057585	20 kDa	4
Lipoprotein Nlpl	NTHI0335	68057038	36 kDa	4
Outer membrane antigenic lipoprotein B	NTHI0830	68057479	42 kDa	4
Thiamine biosynthesis lipoprotein ApbE	NTHI0260	68056976	38 kDa	3
30S ribosomal protein S7	NTHI0746	68057407	18 kDa	3
Glycerol-3-phosphate transporter	NTHI0809	68057464	53 kDa	2
Autotransported protein Lav	NTHI0585	68057256	80 kDa	2
Outer membrane protein P6 precursor	NTHI0501	68057183	16 kDa	2
Chaperone protein DnaK	NTHI1929	68058430	68 kDa	2
Conserved protein	NTHI2017	68058511	13 kDa	2
Heme/hemopexin-binding protein B	NTHI0370	68057069	63 kDa	2
TolQ	NTHI0505	68057187	25 kDa	2
50S ribosomal protein L10	NTHI0759	68057417	18 kDa	2
Small protein A	NTHI1005	68057632	16 kDa	2
Conserved putative gamma-carboxymuconolactone decarboxylase subunit	NTHI1214	68057814	12 kDa	2
ATP synthase B chain	NTHI0613	68057284	17 kDa	2
Opacity protein	NTHI1342	68057921	18 kDa	2
Uridine phosphorylase	NTHI0389	161761279	27 kDa	2
Sodium/proton antiporter nhaB	NTHI0551	189029589	57 kDa	2
Signal peptidase I	NTHI0020	68056765	40 kDa	2
Conserved protein	NTHI0027	68056770	51 kDa	2
Conserved lipoprotein	NTHI0252	68056969	22 kDa	2
Conserved protein	NTHI0319	68057025	23 kDa	2
Polyribonucleotide nucleotidyltransferase	NTHI0334	68057037	77 kDa	2
Heme/hemopexin-binding protein A	NTHI0371	68057070	101 kDa	2
Serine transporter	NTHI0398	68057092	46 kDa	2
Acetyl-coenzyme A carboxylase carboxyl transferase subunit alpha	NTHI0528	68057207	35 kDa	2
ATP synthase alpha chain	NTHI0611	68057282	56 kDa	2
DNA-directed RNA polymerase beta' chain	NTHI0640	68057310	157 kDa	2
Phosphoglycerate kinase	NTHI0651	68057321	41 kDa	2
Large-conductance mechanosensitive channel	NTHI0721	68057384	14 kDa	2
Conserved protein	NTHI0821	68057472	66 kDa	2
Protein NTHI0837	NTHI0837	68057485	33 kDa	2
NADH dehydrogenase	NTHI0903	68057543	49 kDa	2
Galactoside transport system permease protein MglC	NTHI0989	68057618	36 kDa	2
Putative soluble lytic murein transglycosylase	NTHI0995	68057623	69 kDa	2
CipB	NTHI1028	68057652	96 kDa	2
50S ribosomal protein L21	NTHI1043	68057666	11 kDa	2
Cell division protein ZipA	NTHI1266	68057855	37 kDa	2
Carbon starvation protein, predicted membrane protein	NTHI1295	68057876	59 kDa	2
Cell division protein FtsZ	NTHI1311	68057891	45 kDa	2
Predicted Na ⁺ /dicarboxylate symporter	NTHI1323	68057902	46 kDa	2

Putative L-lactate permease	NTHI1391	68057963	57 kDa	2
Pyruvate kinase	NTHI1479	68058040	51 kDa	2
30S ribosomal protein S15	NTHI1652	68058196	10 kDa	2
Dihydrolipoamide acetyltransferase component of pyruvate dehydrogenase complex	NTHI1934	68058434	59 kDa	2
Tail-specific protease precursor	NTHI1969	68058468	79 kDa	2
50S ribosomal protein L1	NTHI0642	68057312	24 kDa	2
Protein-export membrane protein SecD	NTHI0346	68057047	67 kDa	1
Probable cytochrome oxidase subunit I	NTHI1236	68057831	58 kDa	0
Conserved protein	NTHI1667	68058207	20 kDa	0
Thiol:disulfide interchange protein DsbC	NTHI1384	68057958	25 kDa	0
Predicted nucleoside permease	NTHI0645	68057315	43 kDa	0
Conserved protein	NTHI1930	68058431	53 kDa	0
N-acetylneuraminate epimerase	NTHI0235	189030826	40 kDa	0
60 kDa chaperonin	NTHI0669	68057339	57 kDa	0
Membrane-bound lytic murein transglycosylase C precursor	NTHI0921	68057556	40 kDa	0
Conserved protein	NTHI1317	68057897	19 kDa	0
Conserved protein	NTHI1441	68058008	9 kDa	0
Outer-membrane lipoproteins carrier protein precursor	NTHI1456	68058021	23 kDa	0
Outer membrane lipoprotein PCP precursor	NTHI1473	68058035	15 kDa	0
10 kDa chaperonin	NTHI0668	68057338	10 kDa	0
Predicted 5-formyltetrahydrofolate cyclo-ligase	NTHI1027	68057651	22 kDa	0

¹Purified OMVs isolated from 86-028NP were analyzed using LC-MS/MS and were matched with the NCBI *H. Influenzae* 86-028NP database. All proteins indentified are listed proteins and sorted by protein hits.