SEQUENCE LISTING

<110> ONCOTHERAPY SCIENCE, INC.

<120> TTK PEPTIDES AND VACCINES INCLUDING THE SAME

<130> ONC-A0908P

<150> US 61/216,017
<151> 2009-05-11

<160> 44

<170> PatentIn version 3.5

<210> 1
<211> 9
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 1

Tyr Met Ser Cys Phe Arg Thr Pro Val
1 5

<210> 2
<211> 9
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 2

Asn Met Leu Glu Ala Val His Thr Ile
1 5

<210> 3
<211> 9
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 3

Ile Thr Asp Gln Tyr Ile Tyr Met Val
1 5

<210> 4
<211> 9
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 4

Gln Met Gln Pro Asp Thr Thr Ser Val

1 5

<210> 5
<211> 9
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 5

Lys Gln Ile Tyr Ala Ile Lys Tyr Val
1 5

<210> 6
<211> 9
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 6

Ser Leu Gly Cys Ile Leu Tyr Tyr Met
1 5

<210> 7
<211> 9
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 7

Tyr Val Leu Gly Gln Leu Val Gly Leu
1 5

<210> 8
<211> 9
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 8

Tyr Val Gln Ile Gln Thr His Pro Val
1 5

<210> 9
<211> 9
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 9

Leu Ile Val Asp Gly Met Leu Lys Leu
1 5

<210> 10
<211> 9
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 10

Thr Ile Asp Ser Ile Met Asn Lys Val
1 5

<210> 11
<211> 9
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 11

Met Leu Lys Leu Ile Asp Phe Gly Ile
1 5

<210> 12
<211> 9
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 12

Ser Leu Leu Ala Lys Leu Glu Glu Thr
1 5

<210> 13
<211> 9
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 13

Ile Leu Ala Thr Pro Leu Gln Asn Leu
1 5

<210> 14
<211> 9
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 14

Leu Ile Ile Thr Asp Ser Ile Thr Leu
1 5

<210> 15
<211> 9
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 15

Phe Ala Phe Val His Ile Ser Phe Ala
1 5

<210> 16
<211> 9
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 16

Ala Ile Ile Asp Pro Asn His Glu Ile
1 5

<210> 17
<211> 9
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 17

Lys Leu Ile Gly Arg Tyr Ser Gln Ala
1 5

<210> 18
<211> 9
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 18

Leu Leu Ala His Pro Tyr Val Gln Ile
1 5

<210> 19
<211> 9
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 19

His Ile Ser Phe Ala Gln Phe Glu Leu
1 5

<210> 20
<211> 9
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 20

Thr Leu Asp Ser Tyr Arg Asn Glu Ile
1 5

<210> 21
<211> 9
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 21

Tyr Met Val Met Glu Cys Gly Asn Ile
1 5

<210> 22
<211> 10
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 22

Tyr Met Ser Cys Phe Arg Thr Pro Val Val
1 5 10

<210> 23
<211> 10
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 23

Phe Leu Ile Val Asp Gly Met Leu Lys Leu
1 5 10

<210> 24
<211> 10
<212> PRT

<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 24

Gly Met Leu Lys Leu Ile Asp Phe Gly Ile
1 5 10

<210> 25
<211> 10
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 25

Phe Leu Tyr Gly Glu Asn Met Pro Pro Gln
1 5 10

<210> 26
<211> 10
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 26

Lys Leu Ile Gly Arg Tyr Ser Gln Ala Ile
1 5 10

<210> 27
<211> 10
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 27

Thr Thr Phe Glu Gln Pro Val Phe Ser Val
1 5 10

<210> 28
<211> 10
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 28

Gln Met Gln Pro Asp Thr Thr Ser Val Val
1 5 10

<210> 29

<211> 10
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 29

Met Val Met Glu Cys Gly Asn Ile Asp Leu
1 5 10

<210> 30
<211> 10
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 30

Asn Leu Ser Ala Ser Thr Val Leu Thr Ala
1 5 10

<210> 31
<211> 10
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 31

Leu Thr Ile Asp Ser Ile Met Asn Lys Val
1 5 10

<210> 32
<211> 10
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 32

Lys Ile Ile Arg Leu Tyr Asp Tyr Glu Ile
1 5 10

<210> 33
<211> 10
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 33

Met Met Ala Asn Asn Pro Glu Asp Trp Leu
1 5 10

<210> 34
<211> 10
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 34

Val Leu Asn Glu Lys Lys Gln Ile Tyr Ala
1 5 10

<210> 35
<211> 10
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 35

Lys Leu Ile Asp Phe Gly Ile Ala Asn Gln
1 5 10

<210> 36
<211> 10
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 36

Leu Leu Leu Lys Leu Glu Lys Asn Ser Val
1 5 10

<210> 37
<211> 10
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 37

Gln Met Ala Lys Gly Thr Thr Glu Glu Met
1 5 10

<210> 38
<211> 10
<212> PRT
<213> Artificial

<220>
<223> an artificially synthesized peptide sequence

<400> 38

Gln Ile Tyr Ala Ile Lys Tyr Val Asn Leu

1 5 10

<210> 39
<211> 2984
<212> DNA
<213> Homo sapiens

<400> 39
ggaaattcaa acgtgtttgc ggaaaggagt ttgggttcca tcttttcatt tccccagcgc 60

agctttctgt agaaatggaa tccgaggatt taagtggcag agaattgaca attgattcca 120

taatgaacaa agtgagagac attaaaaata agtttaaaaa tgaagacctt actgatgaac 180

taagcttgaa taaaatttct gctgatacta cagataactc gggaactgtt aaccaaatta 240

tgatgatggc aaacaaccca gaggactggt tgagtttgtt gctcaaacta gagaaaaaca 300

gtgttccgct aagtgatgct cttttaaata aattgattgg tcgttacagt caagcaattg 360

aagcgcttcc cccagataaa tatggccaaa atgagagttt tgctagaatt caagtgagat 420

ttgctgaatt aaaagctatt caagagccag atgatgcacg tgactacttt caaatggcca 480

gagcaaactg caagaaattt gcttttgttc atatatcttt tgcacaattt gaactgtcac 540

aaggtaatgt caaaaaaagt aaacaacttc ttcaaaaagc tgtagaacgt ggagcagtac 600

cactagaaat gctggaaatt gccctgcgga atttaaacct ccaaaaaaag cagctgcttt 660

cagaggagga aaagaagaat ttatcagcat ctacggtatt aactgcccaa gaatcatttt 720

ccggttcact tgggcattta cagaatagga acaacagttg tgattccaga ggacagacta 780

ctaaagccag gtttttatat ggagagaaca tgccaccaca agatgcagaa ataggttacc 840

ggaattcatt gagacaaact aacaaaacta aacagtcatg cccatttgga agagtcccag 900

ttaaccttct aaatagccca gattgtgatg tgaagacaga tgattcagtt gtaccttgtt 960

ttatgaaaag acaaacctct agatcagaat gccgagattt ggttgtgcct ggatctaaac 1020

caagtggaaa tgattcctgt gaattaagaa atttaaagtc tgttcaaaat agtcatttca 1080

aggaacctct ggtgtcagat gaaaagagtt ctgaacttat tattactgat tcaataaccc 1140

tgaagaataa aacggaatca agtcttctag ctaaattaga agaaactaaa gagtatcaag 1200

aaccagaggt tccagagagt aaccagaaac agtggcaatc taagagaaag tcagagtgta 1260

ttaaccagaa tcctgctgca tcttcaaatc actggcagat tccggagtta gcccgaaaag 1320

ttaatacaga gcagaaacat accacttttg agcaacctgt cttttcagtt tcaaaacagt 1380

caccaccaat atcaacatct aaatggtttg acccaaaatc tatttgtaag acaccaagca 1440

gcaatacctt ggatgattac atgagctgtt ttagaactcc agttgtaaag aatgactttc 1500

cacctgcttg tcagttgtca acaccttatg gccaacctgc ctgtttccag cagcaacagc 1560

atcaaatact tgccactcca cttcaaaatt tacaggtttt agcatcttct tcagcaaatg 1620

aatgcatttc ggttaaagga agaatttatt ccattttaaa gcagatagga agtggaggtt 1680

caagcaaggt atttcaggtg ttaaatgaaa agaaacagat atatgctata aaatatgtga 1740

acttagaaga agcagataac caaactcttg atagttaccg gaacgaaata gcttatttga 1800

ataaactaca acaacacagt gataagatca tccgacttta tgattatgaa atcacggacc 1860

agtacatcta catggtaatg gagtgtggaa atattgatct taatagttgg cttaaaaaga 1920

aaaaatccat tgatccatgg gaacgcaaga gttactggaa aaatatgtta gaggcagttc 1980

acacaatcca tcaacatggc attgttcaca gtgatcttaa accagctaac tttctgatag 2040

ttgatggaat gctaaagcta attgattttg ggattgcaaa ccaaatgcaa ccagatacaa 2100

caagtgttgt taaagattct caggttggca cagttaatta tatgccacca gaagcaatca 2160

aagatatgtc ttcctccaga gagaatggga aatctaagtc aaagataagc cccaaaagtg 2220

atgtttggtc cttaggatgt attttgtact atatgactta cgggaaaaca ccatttcagc 2280

agataattaa tcagatttct aaattacatg ccataattga tcctaatcat gaaattgaat 2340

ttcccgatat tccagagaaa gatcttcaag atgtgttaaa gtgttgttta aaaagggacc 2400

caaaacagag gatatccatt cctgagctcc tggctcatcc ctatgttcaa attcaaactc 2460

atccagttaa ccaaatggcc aagggaacca ctgaagaaat gaaatatgtt ctgggccaac 2520

ttgttggtct gaattctcct aactccattt tgaaagctgc taaaacttta tatgaacact 2580

atagtggtgg tgaaagtcat aattcttcat cctccaagac ttttgaaaaa aaaaggggaa 2640

aaaaatgatt tgcagttatt cgtaatgtca aataccacct ataaaatata ttggactgtt 2700

atactcttga atccctgtgg aaatctacat ttgaagacaa catcactctg aagtgttatc 2760

agcaaaaaaa attcagtaga ttatctttaa aagaaaactg taaaaatagc aaccacttat 2820

ggtactgtat atattgtaga cttgttttct ctgttttatg ctcttgtgta atctacttga 2880

catcatttta ctcttggaat agtgggtgga tagcaagtat attctaaaaa actttgtaaa 2940

taaagttttg tggctaaaat gacactaaaa aaaaaaaaaa aaaa 2984

<210> 40
<211> 857
<212> PRT
<213> Homo sapiens

<400> 40

Met Glu Ser Glu Asp Leu Ser Gly Arg Glu Leu Thr Ile Asp Ser Ile
1 5 10 15

Met Asn Lys Val Arg Asp Ile Lys Asn Lys Phe Lys Asn Glu Asp Leu
20 25 30

Thr Asp Glu Leu Ser Leu Asn Lys Ile Ser Ala Asp Thr Thr Asp Asn
35 40 45

Ser Gly Thr Val Asn Gln Ile Met Met Met Ala Asn Asn Pro Glu Asp
50 55 60

Trp Leu Ser Leu Leu Leu Lys Leu Glu Lys Asn Ser Val Pro Leu Ser
65 70 75 80

Asp Ala Leu Leu Asn Lys Leu Ile Gly Arg Tyr Ser Gln Ala Ile Glu
85 90 95

Ala Leu Pro Pro Asp Lys Tyr Gly Gln Asn Glu Ser Phe Ala Arg Ile
100 105 110

Gln Val Arg Phe Ala Glu Leu Lys Ala Ile Gln Glu Pro Asp Asp Ala
115 120 125

Arg Asp Tyr Phe Gln Met Ala Arg Ala Asn Cys Lys Lys Phe Ala Phe
130 135 140

Val His Ile Ser Phe Ala Gln Phe Glu Leu Ser Gln Gly Asn Val Lys
145 150 155 160

Lys Ser Lys Gln Leu Leu Gln Lys Ala Val Glu Arg Gly Ala Val Pro
165 170 175

Leu Glu Met Leu Glu Ile Ala Leu Arg Asn Leu Asn Leu Gln Lys Lys
180 185 190

Gln Leu Leu Ser Glu Glu Glu Lys Lys Asn Leu Ser Ala Ser Thr Val
195 200 205

Leu Thr Ala Gln Glu Ser Phe Ser Gly Ser Leu Gly His Leu Gln Asn
210 215 220

Arg Asn Asn Ser Cys Asp Ser Arg Gly Gln Thr Thr Lys Ala Arg Phe
225 230 235 240

Leu Tyr Gly Glu Asn Met Pro Pro Gln Asp Ala Glu Ile Gly Tyr Arg
245 250 255

Asn Ser Leu Arg Gln Thr Asn Lys Thr Lys Gln Ser Cys Pro Phe Gly
260 265 270

Arg Val Pro Val Asn Leu Leu Asn Ser Pro Asp Cys Asp Val Lys Thr
275 280 285

Asp Asp Ser Val Val Pro Cys Phe Met Lys Arg Gln Thr Ser Arg Ser
290 295 300

Glu Cys Arg Asp Leu Val Val Pro Gly Ser Lys Pro Ser Gly Asn Asp
305 310 315 320

Ser Cys Glu Leu Arg Asn Leu Lys Ser Val Gln Asn Ser His Phe Lys
325 330 335

Glu Pro Leu Val Ser Asp Glu Lys Ser Ser Glu Leu Ile Ile Thr Asp
340 345 350

```
Ser Ile Thr Leu Lys Asn Lys Thr Glu Ser Ser Leu Leu Ala Lys Leu
        355                 360                 365

Glu Glu Thr Lys Glu Tyr Gln Glu Pro Glu Val Pro Glu Ser Asn Gln
    370                 375                 380

Lys Gln Trp Gln Ser Lys Arg Lys Ser Glu Cys Ile Asn Gln Asn Pro
385                 390                 395                 400

Ala Ala Ser Ser Asn His Trp Gln Ile Pro Glu Leu Ala Arg Lys Val
                405                 410                 415

Asn Thr Glu Gln Lys His Thr Thr Phe Glu Gln Pro Val Phe Ser Val
            420                 425                 430

Ser Lys Gln Ser Pro Pro Ile Ser Thr Ser Lys Trp Phe Asp Pro Lys
        435                 440                 445

Ser Ile Cys Lys Thr Pro Ser Ser Asn Thr Leu Asp Asp Tyr Met Ser
    450                 455                 460

Cys Phe Arg Thr Pro Val Val Lys Asn Asp Phe Pro Pro Ala Cys Gln
465                 470                 475                 480

Leu Ser Thr Pro Tyr Gly Gln Pro Ala Cys Phe Gln Gln Gln Gln His
                485                 490                 495

Gln Ile Leu Ala Thr Pro Leu Gln Asn Leu Gln Val Leu Ala Ser Ser
            500                 505                 510

Ser Ala Asn Glu Cys Ile Ser Val Lys Gly Arg Ile Tyr Ser Ile Leu
        515                 520                 525

Lys Gln Ile Gly Ser Gly Gly Ser Ser Lys Val Phe Gln Val Leu Asn
    530                 535                 540

Glu Lys Lys Gln Ile Tyr Ala Ile Lys Tyr Val Asn Leu Glu Glu Ala
545                 550                 555                 560

Asp Asn Gln Thr Leu Asp Ser Tyr Arg Asn Glu Ile Ala Tyr Leu Asn
                565                 570                 575

Lys Leu Gln Gln His Ser Asp Lys Ile Ile Arg Leu Tyr Asp Tyr Glu
            580                 585                 590

Ile Thr Asp Gln Tyr Ile Tyr Met Val Met Glu Cys Gly Asn Ile Asp
        595                 600                 605

Leu Asn Ser Trp Leu Lys Lys Lys Lys Ser Ile Asp Pro Trp Glu Arg
    610                 615                 620
```

```
Lys Ser Tyr Trp Lys Asn Met Leu Glu Ala Val His Thr Ile His Gln
625                 630                 635                 640

His Gly Ile Val His Ser Asp Leu Lys Pro Ala Asn Phe Leu Ile Val
                645                 650                 655

Asp Gly Met Leu Lys Leu Ile Asp Phe Gly Ile Ala Asn Gln Met Gln
            660                 665                 670

Pro Asp Thr Thr Ser Val Val Lys Asp Ser Gln Val Gly Thr Val Asn
        675                 680                 685

Tyr Met Pro Pro Glu Ala Ile Lys Asp Met Ser Ser Ser Arg Glu Asn
    690                 695                 700

Gly Lys Ser Lys Ser Lys Ile Ser Pro Lys Ser Asp Val Trp Ser Leu
705                 710                 715                 720

Gly Cys Ile Leu Tyr Tyr Met Thr Tyr Gly Lys Thr Pro Phe Gln Gln
                725                 730                 735

Ile Ile Asn Gln Ile Ser Lys Leu His Ala Ile Ile Asp Pro Asn His
            740                 745                 750

Glu Ile Glu Phe Pro Asp Ile Pro Glu Lys Asp Leu Gln Asp Val Leu
        755                 760                 765

Lys Cys Cys Leu Lys Arg Asp Pro Lys Gln Arg Ile Ser Ile Pro Glu
    770                 775                 780

Leu Leu Ala His Pro Tyr Val Gln Ile Gln Thr His Pro Val Asn Gln
785                 790                 795                 800

Met Ala Lys Gly Thr Thr Glu Glu Met Lys Tyr Val Leu Gly Gln Leu
                805                 810                 815

Val Gly Leu Asn Ser Pro Asn Ser Ile Leu Lys Ala Ala Lys Thr Leu
            820                 825                 830

Tyr Glu His Tyr Ser Gly Gly Glu Ser His Asn Ser Ser Ser Ser Lys
        835                 840                 845

Thr Phe Glu Lys Lys Arg Gly Lys Lys
    850                 855
```

<210> 41
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> an artificially synthesized nucleotide sequence

<400> 41
gtctaccagg cattcgcttc at 22

<210> 42
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> an artificially synthesized nucleotide sequence

<400> 42
tcagctggac cacagccgca gcgt 24

<210> 43
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> an artificially synthesized nucleotide sequence

<400> 43
tcagaaatcc tttctcttga c 21

<210> 44
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> an artificially synthesized nucleotide sequence

<400> 44
ctagcctctg gaatcctttc tctt 24