Sequence Listing

<110> WUHAN NEUROPHTH BIOTECHNOLOGY CO LTD

<120> Expression Vector of Human Nuclear Factor E2-related Factor 2 and Application of Expression Vector

<130> P2020-0351

<160> 6

<170> PatentIn version 3.5

<210> 1
<211> 1818
<212> DNA
<213> Artificial sequence

<400> 1
atgatggatc ttgaactgcc tcccccggga cttccttccc aacaagacat ggacttgatt 60

gacattctgt ggcgacagga catagacctg ggcgtgtctc gggaggtctt tgattttagc 120

cagaggagga aggagtatga acttgagaag cagaaaaagc tggaaaagga aaggcaagaa 180

caactccaga aggagcagga aaaggcattt ttcgcccagc tgcaactcga tgaggagact 240

ggagaattcc tgcctatcca gccagcccaa cacatccagt cagagaccag cggaagcgcc 300

aactatagtc aggtggcgca catccctaaa tccgatgctc tctacttcga cgactgtatg 360

cagctcctcg cccaaacatt ccctttttgtc gacgataatg aggtgagttc cgcgacattt 420

cagtccctgg tgccggacat ccctggacac atcgagagcc cagtctttat cgccaccaac 480

caggctcagt cccctgagac cagtgtggct caagtggctc cggttgatct tgatggaatg 540

cagcaagaca ttgagcaggt ttgggaagag ttgctttcca tccctgagct gcaatgtctg 600

aacatagaga acgataagct ggttgagacc acgatggtgc ctagccctga agctaaattg 660

acagaggtgg ataactacca cttctactcc agtataccat ctatggagaa agaagtaggt 720

aattgttctc cacactttct gaatgcattt gaagattctt tttcctctat ccttagcacc 780

gaggatccca accagctgac agtgaactca cttaatagcg acgctacggt gaataccgat 840

tttggcgacg agttctacag cgcctttatc gccgagccct ctataagcaa ctccatgcca 900

tccccagcca cgctgagcca tagcctctct gagctgctca acgggccgat cgacgtgtct 960

gacctcagcc tgtgcaaggc tttcaatcag aaccacccag aatctacggc cgaattcaac 1020

gactcagact caggaatcag cctcaatact tctccatctg tggcctctcc agagcatagc 1080

gtggagagta gctcttacgg ggatacactc ttgggtttgt ctgactcaga agttgaagag 1140

ctcgactccg cccccggatc tgtcaaacag aatggcccga agactcccgt gcattcaagt 1200

ggggatatgg tccagcccct ttctccatcc cagggccagt ctactcacgt acatgatgcc 1260

cagtgcgaga atactcccga aaaagagttg ccagtttctc ccgggcaccg caaaacgccg 1320

ttcacaaagg ataaacatag ctccaggctt gaagctcacc tcacaaggga cgaactcagg 1380

gcaaaagccc tccacatccc tttcccagtg gagaaaatca ttaatctgcc ggttgtagat 1440

tttaacgaaa tgatgtccaa ggaacagttt aatgaggctc agttggccct tatccgggat 1500

atacgaagga ggggaaaaaa caaggtagcc gcacagaatt gtcggaagcg gaagcttgaa 1560

aacatcgtcg aactggagca ggatctggat catctgaagg acgagaaaga gaaactcttg 1620

aaagaaaaag gggagaatga taagtccctg caccttctga agaagcagct gtctacgctc 1680

tacctggaag tattttccat gctgcgcgat gaagatggca aaccatacag ccccagcgag 1740

tactctctgc agcaaacacg ggacggtaac gtttttctcg tccccaaatc taagaagcct 1800

gatgtcaaga agaactaa 1818

<210> 2
<211> 1818
<212> DNA
<213> Homo sapiens

<400> 2
atgatggact tggagctgcc gccgccggga ctcccgtccc agcaggacat ggatttgatt 60

gacatacttt ggaggcaaga tatagatctt ggagtaagtc gagaagtatt tgacttcagt 120

cagcgacgga aagagtatga gctggaaaaa cagaaaaaac ttgaaaagga aagacaagaa 180

caactccaaa aggagcaaga gaaagccttt ttcgctcagt tacaactaga tgaagagaca 240

ggtgaatttc tcccaattca gccagcccag cacatccagt cagaaaccag tggatctgcc 300

aactactccc aggttgccca cattcccaaa tcagatgctt tgtactttga tgactgcatg 360

cagcttttgg cgcagacatt cccgtttgta gatgacaatg aggtttcttc ggctacgttt 420

cagtcacttg ttcctgatat tcccggtcac atcgagagcc cagtcttcat tgctactaat 480

caggctcagt cacctgaaac ttctgttgct caggtagccc ctgttgattt agacggtatg 540

caacaggaca ttgagcaagt ttgggaggag ctattatcca ttcctgagtt acagtgtctt 600

aatattgaaa atgacaagct ggttgagact accatggttc caagtccaga agccaaactg 660

acagaagttg acaattatca tttttactca tctataccct caatggaaaa agaagtaggt 720

aactgtagtc cacattttct taatgctttt gaggattcct tcagcagcat cctctccaca 780

gaagacccca accagttgac agtgaactca ttaaattcag atgccacagt caacacagat 840

tttggtgatg aattttattc tgctttcata gctgagccca gtatcagcaa cagcatgccc 900

tcacctgcta ctttaagcca ttcactctct gaacttctaa atgggcccat tgatgtttct 960

gatctatcac tttgcaaagc tttcaaccaa aaccaccctg aaagcacagc agaattcaat 1020

gattctgact ccggcatttc actaaacaca agtcccagtg tggcatcacc agaacactca 1080

gtggaatctt ccagctatgg agacacacta cttggcctca gtgattctga agtggaagag 1140

ctagatagtg cccctggaag tgtcaaacag aatggtccta aaacaccagt acattcttct 1200

ggggatatgg tacaaccctt gtcaccatct caggggcaga gcactcacgt gcatgatgcc 1260

caatgtgaga acacaccaga gaaagaattg cctgtaagtc ctggtcatcg gaaaacccca 1320

ttcacaaaag acaaacattc aagccgcttg gaggctcatc tcacaagaga tgaacttagg 1380

gcaaaagctc tccatatccc attccctgta gaaaaaatca ttaacctccc tgttgttgac 1440

ttcaacgaaa tgatgtccaa agagcagttc aatgaagctc aacttgcatt aattcgggat 1500

atacgtagga ggggtaagaa taaagtggct gctcagaatt gcagaaaaag aaaactggaa 1560

aatatagtag aactagagca agatttagat catttgaaag atgaaaaaga aaaattgctc 1620

aaagaaaaag gagaaaatga caaaagcctt cacctactga aaaaacaact cagcacctta 1680

tatctcgaag ttttcagcat gctacgtgat gaagatggaa aaccttattc tcctagtgaa 1740

tactccctgc agcaaacaag agatggcaat gttttccttg ttcccaaaag taagaagcca 1800

gatgttaaga aaaactag 1818

<210> 3
<211> 605
<212> PRT
<213> Homo sapiens

<400> 3

```
Met Met Asp Leu Glu Leu Pro Pro Pro Gly Leu Pro Ser Gln Gln Asp
1               5                  10                  15

Met Asp Leu Ile Asp Ile Leu Trp Arg Gln Asp Ile Asp Leu Gly Val
            20                  25                  30

Ser Arg Glu Val Phe Asp Phe Ser Gln Arg Arg Lys Glu Tyr Glu Leu
        35                  40                  45

Glu Lys Gln Lys Lys Leu Glu Lys Glu Arg Gln Glu Gln Leu Gln Lys
    50                  55                  60

Glu Gln Glu Lys Ala Phe Phe Ala Gln Leu Gln Leu Asp Glu Glu Thr
65                  70                  75                  80

Gly Glu Phe Leu Pro Ile Gln Pro Ala Gln His Ile Gln Ser Glu Thr
                85                  90                  95

Ser Gly Ser Ala Asn Tyr Ser Gln Val Ala His Ile Pro Lys Ser Asp
            100                 105                 110

Ala Leu Tyr Phe Asp Asp Cys Met Gln Leu Leu Ala Gln Thr Phe Pro
        115                 120                 125

Phe Val Asp Asp Asn Glu Val Ser Ser Ala Thr Phe Gln Ser Leu Val
    130                 135                 140

Pro Asp Ile Pro Gly His Ile Glu Ser Pro Val Phe Ile Ala Thr Asn
145                 150                 155                 160

Gln Ala Gln Ser Pro Glu Thr Ser Val Ala Gln Val Ala Pro Val Asp
                165                 170                 175

Leu Asp Gly Met Gln Gln Asp Ile Glu Gln Val Trp Glu Glu Leu Leu
            180                 185                 190

Ser Ile Pro Glu Leu Gln Cys Leu Asn Ile Glu Asn Asp Lys Leu Val
        195                 200                 205
```

```
Glu Thr Thr Met Val Pro Ser Pro Glu Ala Lys Leu Thr Glu Val Asp
    210                 215                 220

Asn Tyr His Phe Tyr Ser Ser Ile Pro Ser Met Glu Lys Glu Val Gly
225                 230                 235                 240

Asn Cys Ser Pro His Phe Leu Asn Ala Phe Glu Asp Ser Phe Ser Ser
                245                 250                 255

Ile Leu Ser Thr Glu Asp Pro Asn Gln Leu Thr Val Asn Ser Leu Asn
            260                 265                 270

Ser Asp Ala Thr Val Asn Thr Asp Phe Gly Asp Glu Phe Tyr Ser Ala
        275                 280                 285

Phe Ile Ala Glu Pro Ser Ile Ser Asn Ser Met Pro Ser Pro Ala Thr
    290                 295                 300

Leu Ser His Ser Leu Ser Glu Leu Leu Asn Gly Pro Ile Asp Val Ser
305                 310                 315                 320

Asp Leu Ser Leu Cys Lys Ala Phe Asn Gln Asn His Pro Glu Ser Thr
                325                 330                 335

Ala Glu Phe Asn Asp Ser Asp Ser Gly Ile Ser Leu Asn Thr Ser Pro
            340                 345                 350

Ser Val Ala Ser Pro Glu His Ser Val Glu Ser Ser Ser Tyr Gly Asp
        355                 360                 365

Thr Leu Leu Gly Leu Ser Asp Ser Glu Val Glu Glu Leu Asp Ser Ala
    370                 375                 380

Pro Gly Ser Val Lys Gln Asn Gly Pro Lys Thr Pro Val His Ser Ser
385                 390                 395                 400

Gly Asp Met Val Gln Pro Leu Ser Pro Ser Gln Gly Gln Ser Thr His
                405                 410                 415
```

```
Val His Asp Ala Gln Cys Glu Asn Thr Pro Glu Lys Glu Leu Pro Val
            420                 425                 430

Ser Pro Gly His Arg Lys Thr Pro Phe Thr Lys Asp Lys His Ser Ser
        435                 440                 445

Arg Leu Glu Ala His Leu Thr Arg Asp Glu Leu Arg Ala Lys Ala Leu
    450                 455                 460

His Ile Pro Phe Pro Val Glu Lys Ile Ile Asn Leu Pro Val Val Asp
465                 470                 475                 480

Phe Asn Glu Met Met Ser Lys Glu Gln Phe Asn Glu Ala Gln Leu Ala
                485                 490                 495

Leu Ile Arg Asp Ile Arg Arg Arg Gly Lys Asn Lys Val Ala Ala Gln
            500                 505                 510

Asn Cys Arg Lys Arg Lys Leu Glu Asn Ile Val Glu Leu Glu Gln Asp
        515                 520                 525

Leu Asp His Leu Lys Asp Glu Lys Glu Lys Leu Leu Lys Glu Lys Gly
    530                 535                 540

Glu Asn Asp Lys Ser Leu His Leu Leu Lys Lys Gln Leu Ser Thr Leu
545                 550                 555                 560

Tyr Leu Glu Val Phe Ser Met Leu Arg Asp Glu Asp Gly Lys Pro Tyr
                565                 570                 575

Ser Pro Ser Glu Tyr Ser Leu Gln Gln Thr Arg Asp Gly Asn Val Phe
            580                 585                 590

Leu Val Pro Lys Ser Lys Lys Pro Asp Val Lys Lys Asn
        595                 600                 605
```

<210> 4
<211> 1733

<212> DNA
<213> Artificial sequence

<400> 4
ctcgacattg attattgact agttattaat agtaatcaat tacggggtca ttagttcata 60

gcccatatat ggagttccgc gttacataac ttacggtaaa tggcccgcct ggctgaccgc 120

ccaacgaccc ccgcccattg acgtcaataa tgacgtatgt tcccatagta acgccaatag 180

ggactttcca ttgacgtcaa tgggtggagt atttacggta aactgcccac ttggcagtac 240

atcaagtgta tcatatgcca agtacgcccc ctattgacgt caatgacggt aaatggcccg 300

cctggcatta tgcccagtac atgaccttat gggactttcc tacttggcag tacatctacg 360

tattagtcat cgctattacc atggtcgagg tgagccccac gttctgcttc actctcccca 420

tctccccccc ctccccaccc ccaattttgt atttatttat tttttaatta ttttgtgcag 480

cgatgggggc gggggggggg gggggcgcgc cgccaggcgg ggcggggcgg ggcgaggggc 540

ggggcggggc gaggcggaga ggtgcggcgg cagccaatca gagcggcgcg ctccgaaagt 600

ttccttttat ggcgaggcgg cggcggcggc ggccctataa aaagcgaagc gcgcggcggg 660

cgggagtcgc tgcgcgctgc cttcgccccg tgccccgctc cgccgccgcc tcgcgccgcc 720

cgccccggct ctgactgacc gcgttactcc cacaggtgag cgggcgggac ggcccttctc 780

ctccgggctg taattagcgc ttggtttaat gacggcttgt ttcttttctg tggctgcgtg 840

aaagccttga ggggctccgg gagggccctt tgtgcggggg gagcggctcg gggggtgcgt 900

gcgtgtgtgt gtgcgtgggg agcgccgcgt gcggctccgc gctgcccggc ggctgtgagc 960

gctgcgggcg cggcgcgggg ctttgtgcgc tccgcagtgt gcgcgagggg agcgcggccg 1020

ggggcggtgc cccgcggtgc gggggggggct gcgaggggaa caaaggctgc gtgcggggtg 1080

tgtgcgtggg ggggtgagca gggggtgtgg gcgcgtcggt cgggctgcaa ccccccctgc 1140

acccccctcc ccgagttgct gagcacggcc cggcttcggg tgcggggctc cgtacggggc 1200

gtggcgcggg gctcgccgtg ccgggcgggg ggtggcggca ggtgggggtg ccgggcgggg 1260

cggggccgcc tcgggccggg gagggctcgg gggaggggcg cggcggcccc cggagcgccg 1320

gcggctgtcg aggcgcggcg agccgcagcc attgcctttt atggtaatcg tgcgagaggg 1380

cgcagggact tcctttgtcc caaatctgtg cggagccgaa atctgggagg cgccgccgca 1440

ccccctctag cgggcgcggg gcgaagcggt gcggcgccgg caggaaggaa atgggcgggg 1500

agggccttcg tgcgtcgccg cgccgccgtc cccttctccc tctccagcct cggggctgtc 1560

cgcgggggga cggctgcctt cgggggggac ggggcagggc ggggttcggc ttctggcgtg 1620

tgaccggcgg ctctagagcc tctgctaacc atgttcatgc cttcttcttt ttcctacagc 1680

tcctgggcaa cgtgctggtt attgtgctgt ctcatcattt tggcaaagaa ttg 1733

<210> 5
<211> 469
<212> DNA
<213> Artificial sequence

<400> 5
ctgcagaggg ccctgcgtat gagtgcaagt gggttttagg accaggatga ggcggggtgg 60

gggtgcctac ctgacgaccg accccgaccc actggacaag cacccaaccc ccattcccca 120

aattgcgcat cccctatcag agagggggag gggaaacagg atgcggcgag gcgcgtgcgc 180

actgccagct tcagcaccgc ggacagtgcc ttcgcccccg cctggcggcg cgcgccaccg 240

ccgcctcagc actgaaggcg cgctgacgtc actcgccggt cccccgcaaa ctccccttcc 300

cggccacctt ggtcgcgtcc gcgccgccgc cggcccagcc ggaccgcacc acgcgaggcg 360

cgagataggg gggcacgggc gcgaccatct gcgctgcggc gccggcgact cagcgctgcc 420

tcagtctgcg gtgggcagcg gaggagtcgt gtcgtgcctg agagcgcag 469

<210> 6
<211> 507
<212> DNA
<213> Artificial sequence

<400> 6
cgttacataa cttacggtaa atggcccgcc tggctgaccg cccaacgacc cccgcccatt 60

gacgtcaata atgacgtatg ttcccatagt aacgccaata gggactttcc attgacgtca 120

atgggtggag tatttacggt aaactgccca cttggcagta catcaagtgt atcatatgcc 180

aagtacgccc cctattgacg tcaatgacgg taaatggccc gcctggcatt atgcccagta 240

catgacctta tgggactttc ctacttggca gtacatctac gtattagtca tcgctattac 300

catggtgatg cggttttggc agtacatcaa tgggcgtgga tagcggtttg actcacgggg 360

atttccaagt ctccacccca ttgacgtcaa tgggagtttg ttttgcacca aaatcaacgg 420

gactttccaa aatgtcgtaa caactccgcc ccattgacgc aaatgggcgg taggcgtgta 480

cggtgggagg tctatataag cagagct 507