

## SEQUENCE LISTING

<110> Astellas Pharma Inc.  
 RIKEN

<120> Artificial adjuvant vector cell comprising NY-ESO-1 for use in  
 treating cancer

<130> A20027A00

<150> JP2019-217704  
 <151> 2019-12-02

<160> 7

<170> PatentIn version 3.5

<210> 1  
 <211> 543  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)..(540)

<400> 1

|                                                                 |     |
|-----------------------------------------------------------------|-----|
| atg cag gcc gag ggc aga ggc aca ggc gga tct act ggg gat gct gat | 48  |
| Met Gln Ala Glu Gly Arg Gly Thr Gly Gly Ser Thr Gly Asp Ala Asp |     |
| 1 5 10 15                                                       |     |
| gga cct ggc ggc cct ggc att cca gat ggc cca ggc gga aat gct ggc | 96  |
| Gly Pro Gly Gly Pro Gly Ile Pro Asp Gly Pro Gly Gly Asn Ala Gly |     |
| 20 25 30                                                        |     |
| gga cca ggc gaa gct ggc gct aca ggc gga aga gga cct aga ggc gct | 144 |
| Gly Pro Gly Glu Ala Gly Ala Thr Gly Gly Arg Gly Pro Arg Gly Ala |     |
| 35 40 45                                                        |     |
| ggc gcc gct aga gct tct gga cct ggc gga ggc gct cct aga gga cct | 192 |
| Gly Ala Ala Arg Ala Ser Gly Pro Gly Gly Gly Ala Pro Arg Gly Pro |     |
| 50 55 60                                                        |     |
| cat ggc gga gct gcc tct ggc ctg aat ggc tgc tgt aga tgt ggc gcc | 240 |
| His Gly Gly Ala Ala Ser Gly Leu Asn Gly Cys Cys Arg Cys Gly Ala |     |
| 65 70 75 80                                                     |     |
| aga ggc ccc gaa agc cgg ctg ctg gag ttt tac ctg gcc atg ccc ttc | 288 |
| Arg Gly Pro Glu Ser Arg Leu Leu Glu Phe Tyr Leu Ala Met Pro Phe |     |
| 85 90 95                                                        |     |
| gcc acc ccc atg gaa gct gag ctg gcc aga aga agc ctg gcc cag gac | 336 |
| Ala Thr Pro Met Glu Ala Glu Leu Ala Arg Arg Ser Leu Ala Gln Asp |     |

| 100                                                             | 105 | 110 |     |
|-----------------------------------------------------------------|-----|-----|-----|
| gct cct cca ctg cct gtg cca ggc gtg ctg ctg aaa gag ttc acc gtg |     |     | 384 |
| Ala Pro Pro Leu Pro Val Pro Gly Val Leu Leu Lys Glu Phe Thr Val |     |     |     |
| 115                                                             | 120 | 125 |     |
| tcc ggc aac atc ctg acc atc cgg ctg aca gcc gcc gac cac aga cag |     |     | 432 |
| Ser Gly Asn Ile Leu Thr Ile Arg Leu Thr Ala Ala Asp His Arg Gln |     |     |     |
| 130                                                             | 135 | 140 |     |
| ctg cag ctg agc atc agc agc tgc ctg cag cag ctg tcc ctg ctg atg |     |     | 480 |
| Leu Gln Leu Ser Ile Ser Ser Cys Leu Gln Gln Leu Ser Leu Leu Met |     |     |     |
| 145                                                             | 150 | 155 | 160 |
| tgg atc acc cag tgc ttt ctg ccc gtg ttt ctg gcc cag cct cct agc |     |     | 528 |
| Trp Ile Thr Gln Cys Phe Leu Pro Val Phe Leu Ala Gln Pro Pro Ser |     |     |     |
| 165                                                             | 170 | 175 |     |
| ggc cag cgg aga taa                                             |     |     | 543 |
| Gly Gln Arg Arg                                                 |     |     |     |
| 180                                                             |     |     |     |

<210> 2  
 <211> 180  
 <212> PRT  
 <213> Homo sapiens

<400> 2

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gln | Ala | Glu | Gly | Arg | Gly | Thr | Gly | Gly | Ser | Thr | Gly | Asp | Ala | Asp |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Pro | Gly | Gly | Pro | Gly | Ile | Pro | Asp | Gly | Pro | Gly | Gly | Asn | Ala | Gly |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Pro | Gly | Glu | Ala | Gly | Ala | Thr | Gly | Gly | Arg | Gly | Pro | Arg | Gly | Ala |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Ala | Ala | Arg | Ala | Ser | Gly | Pro | Gly | Gly | Gly | Ala | Pro | Arg | Gly | Pro |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| His | Gly | Gly | Ala | Ala | Ser | Gly | Leu | Asn | Gly | Cys | Cys | Arg | Cys | Gly | Ala |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Gly | Pro | Glu | Ser | Arg | Leu | Leu | Glu | Phe | Tyr | Leu | Ala | Met | Pro | Phe |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |

Ala Thr Pro Met Glu Ala Glu Leu Ala Arg Arg Ser Leu Ala Gln Asp  
 100 105 110

Ala Pro Pro Leu Pro Val Pro Gly Val Leu Leu Lys Glu Phe Thr Val  
 115 120 125

Ser Gly Asn Ile Leu Thr Ile Arg Leu Thr Ala Ala Asp His Arg Gln  
 130 135 140

Leu Gln Leu Ser Ile Ser Ser Cys Leu Gln Gln Leu Ser Leu Leu Met  
 145 150 155 160

Trp Ile Thr Gln Cys Phe Leu Pro Val Phe Leu Ala Gln Pro Pro Ser  
 165 170 175

Gly Gln Arg Arg  
 180

<210> 3  
 <211> 1008  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)..(1005)

<400> 3  
 atg ggc tgc ctg ctg ttt ctg ctg ctg tgg gcc ctg ctg cag gcc tgg 48  
 Met Gly Cys Leu Leu Phe Leu Leu Leu Trp Ala Leu Leu Gln Ala Trp  
 1 5 10 15  
 gga tct gct gaa gtg ccc cag aga ctg ttc ccc ctg cgg tgc ctg cag 96  
 Gly Ser Ala Glu Val Pro Gln Arg Leu Phe Pro Leu Arg Cys Leu Gln  
 20 25 30  
 atc agc agc ttc gcc aac agc agc tgg acc aga acc gat ggc ctg gcc 144  
 Ile Ser Ser Phe Ala Asn Ser Ser Trp Thr Arg Thr Asp Gly Leu Ala  
 35 40 45  
 tgg ctg gga gag ctg cag aca cac agc tgg tcc aac gac agc gac acc 192  
 Trp Leu Gly Glu Leu Gln Thr His Ser Trp Ser Asn Asp Ser Asp Thr  
 50 55 60  
 gtg cgg agc ctg aag cct tgg agc cag ggc acc ttt agc gac cag cag 240  
 Val Arg Ser Leu Lys Pro Trp Ser Gln Gly Thr Phe Ser Asp Gln Gln  
 65 70 75 80

|                                                                 |     |
|-----------------------------------------------------------------|-----|
| tgg gag aca ctg cag cac atc ttc cgg gtg tac aga agc agc ttc acc | 288 |
| Trp Glu Thr Leu Gln His Ile Phe Arg Val Tyr Arg Ser Ser Phe Thr |     |
| 85 90 95                                                        |     |
| cgg gac gtg aaa gaa ttt gcc aag atg ctg cgg ctg agc tac ccc ctg | 336 |
| Arg Asp Val Lys Glu Phe Ala Lys Met Leu Arg Leu Ser Tyr Pro Leu |     |
| 100 105 110                                                     |     |
| gaa ctg cag gtg tcc gcc ggc tgt gaa gtg cac cct ggc aac gcc agc | 384 |
| Glu Leu Gln Val Ser Ala Gly Cys Glu Val His Pro Gly Asn Ala Ser |     |
| 115 120 125                                                     |     |
| aac aac ttc ttc cac gtg gcc ttc cag ggc aag gac ata ctg agc ttt | 432 |
| Asn Asn Phe Phe His Val Ala Phe Gln Gly Lys Asp Ile Leu Ser Phe |     |
| 130 135 140                                                     |     |
| cag ggc acc agc tgg gag ccc aca cag gaa gct cca ctg tgg gtc aac | 480 |
| Gln Gly Thr Ser Trp Glu Pro Thr Gln Glu Ala Pro Leu Trp Val Asn |     |
| 145 150 155 160                                                 |     |
| ctg gcc atc cag gtg ctg aac cag gac aag tgg acc cgg gaa acc gtg | 528 |
| Leu Ala Ile Gln Val Leu Asn Gln Asp Lys Trp Thr Arg Glu Thr Val |     |
| 165 170 175                                                     |     |
| cag tgg ctg ctg aac ggc acc tgt ccc cag ttt gtg tcc ggc ctg ctg | 576 |
| Gln Trp Leu Leu Asn Gly Thr Cys Pro Gln Phe Val Ser Gly Leu Leu |     |
| 180 185 190                                                     |     |
| gaa agc ggc aag agc gag ctg aag aaa caa gtg aag ccc aaa gcc tgg | 624 |
| Glu Ser Gly Lys Ser Glu Leu Lys Lys Gln Val Lys Pro Lys Ala Trp |     |
| 195 200 205                                                     |     |
| ctg agc aga ggc cct tct cct gga cct gga cgg ctg ctg ctc gtg tgt | 672 |
| Leu Ser Arg Gly Pro Ser Pro Gly Pro Gly Arg Leu Leu Leu Val Cys |     |
| 210 215 220                                                     |     |
| cac gtg tcc ggc ttc tac ccc aag ccc gtg tgg gtc aag tgg atg cgg | 720 |
| His Val Ser Gly Phe Tyr Pro Lys Pro Val Trp Val Lys Trp Met Arg |     |
| 225 230 235 240                                                 |     |
| gga gaa cag gaa cag cag ggc acc cag cct ggc gac atc ctg cct aac | 768 |
| Gly Glu Gln Glu Gln Gln Gly Thr Gln Pro Gly Asp Ile Leu Pro Asn |     |
| 245 250 255                                                     |     |
| gcc gac gag aca tgg tat ctg cgg gcc acc ctg gat gtg gtg gct ggc | 816 |
| Ala Asp Glu Thr Trp Tyr Leu Arg Ala Thr Leu Asp Val Val Ala Gly |     |
| 260 265 270                                                     |     |
| gaa gca gcc ggc ctg tcc tgt aga gtg aag cac agc agc ctg gaa gga | 864 |
| Glu Ala Ala Gly Leu Ser Cys Arg Val Lys His Ser Ser Leu Glu Gly |     |
| 275 280 285                                                     |     |
| cag gac atc gtg ctg tac tgg ggc ggc agc tac acc agc atg gga ctg | 912 |

Gln Asp Ile Val Leu Tyr Trp Gly Gly Ser Tyr Thr Ser Met Gly Leu  
 290 295 300

att gct ctg gcc gtg ctg gcc tgt ctg ctg ttt ctg ctg atc gtg gga 960  
 Ile Ala Leu Ala Val Leu Ala Cys Leu Leu Phe Leu Leu Ile Val Gly  
 305 310 315 320

ttc acc agc cgg ttc aag cgg cag acc agc tac cag ggc gtg ctc tga 1008  
 Phe Thr Ser Arg Phe Lys Arg Gln Thr Ser Tyr Gln Gly Val Leu  
 325 330 335

<210> 4  
 <211> 335  
 <212> PRT  
 <213> Homo sapiens

<400> 4

Met Gly Cys Leu Leu Phe Leu Leu Leu Trp Ala Leu Leu Gln Ala Trp  
 1 5 10 15

Gly Ser Ala Glu Val Pro Gln Arg Leu Phe Pro Leu Arg Cys Leu Gln  
 20 25 30

Ile Ser Ser Phe Ala Asn Ser Ser Trp Thr Arg Thr Asp Gly Leu Ala  
 35 40 45

Trp Leu Gly Glu Leu Gln Thr His Ser Trp Ser Asn Asp Ser Asp Thr  
 50 55 60

Val Arg Ser Leu Lys Pro Trp Ser Gln Gly Thr Phe Ser Asp Gln Gln  
 65 70 75 80

Trp Glu Thr Leu Gln His Ile Phe Arg Val Tyr Arg Ser Ser Phe Thr  
 85 90 95

Arg Asp Val Lys Glu Phe Ala Lys Met Leu Arg Leu Ser Tyr Pro Leu  
 100 105 110

Glu Leu Gln Val Ser Ala Gly Cys Glu Val His Pro Gly Asn Ala Ser  
 115 120 125

Asn Asn Phe Phe His Val Ala Phe Gln Gly Lys Asp Ile Leu Ser Phe  
 130 135 140

Gln Gly Thr Ser Trp Glu Pro Thr Gln Glu Ala Pro Leu Trp Val Asn  
 145 150 155 160

Leu Ala Ile Gln Val Leu Asn Gln Asp Lys Trp Thr Arg Glu Thr Val  
 165 170 175

Gln Trp Leu Leu Asn Gly Thr Cys Pro Gln Phe Val Ser Gly Leu Leu  
 180 185 190

Glu Ser Gly Lys Ser Glu Leu Lys Lys Gln Val Lys Pro Lys Ala Trp  
 195 200 205

Leu Ser Arg Gly Pro Ser Pro Gly Pro Gly Arg Leu Leu Leu Val Cys  
 210 215 220

His Val Ser Gly Phe Tyr Pro Lys Pro Val Trp Val Lys Trp Met Arg  
 225 230 235 240

Gly Glu Gln Glu Gln Gln Gly Thr Gln Pro Gly Asp Ile Leu Pro Asn  
 245 250 255

Ala Asp Glu Thr Trp Tyr Leu Arg Ala Thr Leu Asp Val Val Ala Gly  
 260 265 270

Glu Ala Ala Gly Leu Ser Cys Arg Val Lys His Ser Ser Leu Glu Gly  
 275 280 285

Gln Asp Ile Val Leu Tyr Trp Gly Gly Ser Tyr Thr Ser Met Gly Leu  
 290 295 300

Ile Ala Leu Ala Val Leu Ala Cys Leu Leu Phe Leu Leu Ile Val Gly  
 305 310 315 320

Phe Thr Ser Arg Phe Lys Arg Gln Thr Ser Tyr Gln Gly Val Leu  
 325 330 335

<210> 5

<211> 1011

<212> DNA

<213> Mus musculus

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(1008)

&lt;400&gt; 5

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| atg | aga | tac | ctg | ccc | tgg | ctg | ctg | ctg | tgg | gcc | ttc | ctc | cag | gtg | tgg | 48 |
| Met | Arg | Tyr | Leu | Pro | Trp | Leu | Leu | Leu | Trp | Ala | Phe | Leu | Gln | Val | Trp |    |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |    |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| gga | cag | tct | gag | gcc | cag | cag | aag | aac | tac | acc | ttc | cgg | tgc | ctg | cag | 96 |
| Gly | Gln | Ser | Glu | Ala | Gln | Gln | Lys | Asn | Tyr | Thr | Phe | Arg | Cys | Leu | Gln |    |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |    |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| atg | agc | agc | ttc | gcc | aac | aga | agc | tgg | tcc | cgg | acc | gac | agc | gtc | gtg | 144 |
| Met | Ser | Ser | Phe | Ala | Asn | Arg | Ser | Trp | Ser | Arg | Thr | Asp | Ser | Val | Val |     |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| tgg | ctg | gga | gat | ctg | cag | acc | cac | aga | tgg | tcc | aac | gac | agc | gcc | acc | 192 |
| Trp | Leu | Gly | Asp | Leu | Gln | Thr | His | Arg | Trp | Ser | Asn | Asp | Ser | Ala | Thr |     |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| atc | agc | ttc | acc | aag | ccc | tgg | tcc | cag | ggc | aag | ctg | agc | aac | cag | cag | 240 |
| Ile | Ser | Phe | Thr | Lys | Pro | Trp | Ser | Gln | Gly | Lys | Leu | Ser | Asn | Gln | Gln |     |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| tgg | gag | aag | ctg | cag | cac | atg | ttc | cag | gtg | tac | cgg | gtg | tcc | ttc | acc | 288 |
| Trp | Glu | Lys | Leu | Gln | His | Met | Phe | Gln | Val | Tyr | Arg | Val | Ser | Phe | Thr |     |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| cgg | gac | atc | cag | gaa | ctc | gtg | aag | atg | atg | agc | ccc | aaa | gag | gac | tac | 336 |
| Arg | Asp | Ile | Gln | Glu | Leu | Val | Lys | Met | Met | Ser | Pro | Lys | Glu | Asp | Tyr |     |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ccc | atc | gag | atc | cag | ctg | agc | gcc | ggc | tgc | gag | atg | tac | cct | ggc | aat | 384 |
| Pro | Ile | Glu | Ile | Gln | Leu | Ser | Ala | Gly | Cys | Glu | Met | Tyr | Pro | Gly | Asn |     |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| gcc | agc | gag | agc | ttc | ctg | cac | gtg | gcc | ttc | cag | ggc | aaa | tac | gtc | gtg | 432 |
| Ala | Ser | Glu | Ser | Phe | Leu | His | Val | Ala | Phe | Gln | Gly | Lys | Tyr | Val | Val |     |
|     | 130 |     |     |     |     | 135 |     |     |     | 140 |     |     |     |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| cgg | ttc | tgg | ggc | acc | agc | tgg | cag | aca | gtg | cct | ggc | gct | cct | agc | tgg | 480 |
| Arg | Phe | Trp | Gly | Thr | Ser | Trp | Gln | Thr | Val | Pro | Gly | Ala | Pro | Ser | Trp |     |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ctg | gac | ctg | cct | atc | aag | gtg | ctg | aac | gcc | gac | cag | ggc | aca | agc | gcc | 528 |
| Leu | Asp | Leu | Pro | Ile | Lys | Val | Leu | Asn | Ala | Asp | Gln | Gly | Thr | Ser | Ala |     |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| aca | gtg | cag | atg | ctg | ctg | aac | gac | aca | tgc | ccc | ctg | ttc | gtg | cgg | gga | 576 |
| Thr | Val | Gln | Met | Leu | Leu | Asn | Asp | Thr | Cys | Pro | Leu | Phe | Val | Arg | Gly |     |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| ctg | ctg | gaa | gcc | ggc | aag | agc | gac | ctg | gaa | aag | cag | gaa | aag | ccc | gtg | 624  |
| Leu | Leu | Glu | Ala | Gly | Lys | Ser | Asp | Leu | Glu | Lys | Gln | Glu | Lys | Pro | Val |      |
|     |     | 195 |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |      |
| gcc | tgg | ctg | agc | agc | gtg | cca | tct | tct | gcc | gat | ggc | cac | aga | cag | ctc | 672  |
| Ala | Trp | Leu | Ser | Ser | Val | Pro | Ser | Ser | Ala | Asp | Gly | His | Arg | Gln | Leu |      |
|     |     | 210 |     |     |     | 215 |     |     |     | 220 |     |     |     |     |     |      |
| gtg | tgc | cac | gtg | tcc | ggc | ttc | tac | ccc | aag | ccc | gtg | tgg | gtc | atg | tgg | 720  |
| Val | Cys | His | Val | Ser | Gly | Phe | Tyr | Pro | Lys | Pro | Val | Trp | Val | Met | Trp |      |
|     |     | 225 |     | 230 |     |     |     |     |     | 235 |     |     |     | 240 |     |      |
| atg | cgg | ggc | gac | cag | gaa | cag | cag | ggc | aca | cac | aga | ggc | gac | ttt | ctg | 768  |
| Met | Arg | Gly | Asp | Gln | Glu | Gln | Gln | Gly | Thr | His | Arg | Gly | Asp | Phe | Leu |      |
|     |     |     |     | 245 |     |     |     | 250 |     |     |     |     |     | 255 |     |      |
| ccc | aac | gcc | gac | gag | aca | tgg | tat | ctg | caa | gcc | acc | ctg | gac | gtg | gaa | 816  |
| Pro | Asn | Ala | Asp | Glu | Thr | Trp | Tyr | Leu | Gln | Ala | Thr | Leu | Asp | Val | Glu |      |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     | 270 |     |     |     |      |
| gct | ggc | gag | gaa | gct | gga | ctg | gcc | tgc | aga | gtg | aag | cac | agc | tct | ctg | 864  |
| Ala | Gly | Glu | Glu | Ala | Gly | Leu | Ala | Cys | Arg | Val | Lys | His | Ser | Ser | Leu |      |
|     |     | 275 |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |      |
| ggc | ggc | cag | gac | atc | atc | ctg | tac | tgg | gat | gcc | aga | cag | gcc | cca | gtg | 912  |
| Gly | Gly | Gln | Asp | Ile | Ile | Leu | Tyr | Trp | Asp | Ala | Arg | Gln | Ala | Pro | Val |      |
|     |     | 290 |     |     |     | 295 |     |     |     | 300 |     |     |     |     |     |      |
| ggc | ctg | atc | gtg | ttc | atc | gtg | ctg | atc | atg | ctg | gtg | gtc | gtg | ggc | gcc | 960  |
| Gly | Leu | Ile | Val | Phe | Ile | Val | Leu | Ile | Met | Leu | Val | Val | Val | Gly | Ala |      |
|     |     | 305 |     | 310 |     |     |     |     |     | 315 |     |     |     | 320 |     |      |
| gtg | gtg | tac | tac | atc | tgg | cgg | aga | aga | agc | gcc | tac | cag | gat | atc | aga | 1008 |
| Val | Val | Tyr | Tyr | Ile | Trp | Arg | Arg | Arg | Ser | Ala | Tyr | Gln | Asp | Ile | Arg |      |
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Thr Val Gln Met Leu Leu Asn Asp Thr Cys Pro Leu Phe Val Arg Gly  
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Val Cys His Val Ser Gly Phe Tyr Pro Lys Pro Val Trp Val Met Trp  
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Pro Asn Ala Asp Glu Thr Trp Tyr Leu Gln Ala Thr Leu Asp Val Glu  
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Ala Gly Glu Glu Ala Gly Leu Ala Cys Arg Val Lys His Ser Ser Leu  
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