

OPA18596–sequence listing

<110> CJ CheilJedang Corporation

<120> IMP–producing microorganism and method of producing IMP using the same

<130> OPA18596

<150> KR10–2017–0173504

<151> 2017–12–15

<160> 31

<170> KoPatentIn 3.0

<210> 1

<211> 222

<212> PRT

<213> Unknown

<220>

<223> ImpE1

<400> 1

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Gly Ser Asp Leu Gly Leu Arg Glu Gln Lys Arg Leu Ala Thr Lys His
20 25 30

Arg Ile Glu Asp Ala Ala Thr Arg Leu Val Asp Glu Ser Ser Phe Asp
35 40 45

Lys Val Thr Ile Glu Glu Ile Cys Glu Ala Ala Gly Ile Ser Arg Arg
50 55 60

Thr Phe Phe Asn Tyr Phe Ser Thr Lys Glu Ser Ala Val Ile Gly Ala
65 70 75 80

Ser Ser Glu Pro Leu Thr Glu Lys Gln Arg Asn Asp Phe Leu Asn Ala
85 90 95

Asp Ala Ser Asn Leu Leu Gln Leu Met Val Glu Gln Ile Lys Gln His
100 105 110

Leu Glu Ser Ser His Gln Ser Gln Ala Ile His Asp Arg Arg Gln Arg
115 120 125

Ile Phe Ala Asp Pro Asp Val Ala Val Arg Ala Met Ala Phe Arg Lys
130 135 140

Glu Arg Ser Arg Glu Thr Met Glu Leu Ile Ala Gln Arg Leu Arg Glu
145 150 155 160

His Pro Glu Glu Gln Arg Ala Pro Glu Leu Asp Pro Glu Thr Glu Ala
165 170 175

Met Leu Leu Ser Gly Phe Ile Arg Glu Ala Thr Trp Met Ala Ile Ser
180 185 190

Arg Pro Asp Arg Asp Cys Ala Leu Pro Val Gly Asp Arg Ile Tyr Arg

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195	200	205
Ala Met Glu Leu Val Lys Asn Tyr Thr Lys Gly Leu Glu Trp		
210	215	220

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 <211> 549
 <212> PRT
 <213> Unknown

<220>
 <223> ImpE2

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 His Thr Ala Glu Glu Phe Pro Val Ala Asn Ala Glu Met Ala Thr Pro
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 Ser Ala Ile Asp Pro Asn His Gly Lys Lys Thr Ala Asp Asn Val Gly
 35 40 45
 Ile Ile Phe Ala Ala Leu Met Leu Thr Met Leu Met Ser Ser Leu Gly
 50 55 60
 Gln Met Ile Phe Gly Ser Ala Leu Pro Thr Ile Val Gly Glu Leu Gly
 65 70 75 80
 Gly Val Asp Gln Met Ser Trp Val Ile Ser Ala Phe Met Val Thr Met
 85 90 95
 Thr Ile Ala Met Pro Leu Ala Gly Gln Leu Gly Asp Arg Met Gly Arg
 100 105 110
 Lys Trp Val Tyr Ile Ser Gly Ile Ser Ile Phe Val Ile Gly Ser Thr
 115 120 125
 Leu Gly Gly Phe Ala Asn Gly Met Gly Met Leu Ile Thr Gly Arg Ala
 130 135 140
 Ile Gln Gly Phe Gly Ala Gly Ile Met Met Ile Ser Ser Gln Ser Ile
 145 150 155 160
 Val Ala Glu Val Val Ser Ala Arg Glu Arg Gly Lys Phe Met Gly Ile
 165 170 175
 Met Gly Gly Val Phe Gly Val Ser Ser Val Leu Gly Pro Val Leu Gly
 180 185 190
 Gly Trp Phe Thr Asp Gly Pro Gly Trp Arg Trp Gly Leu Trp Ile Asn
 195 200 205
 Ile Pro Leu Gly Leu Leu Ala Ile Ile Val Cys Ala Phe Val Leu Lys
 210 215 220
 Leu Arg Val Gly Glu Gln Gly Phe Lys Gly Phe Asp Trp Met Gly Phe

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225 230 235 240
 Ala Ala Ile Ala Ile Thr Thr Ser Thr Leu Ile Leu Leu Thr Thr Trp
 245 250 255
 Gly Gly Ser Glu Tyr Glu Trp Thr Ser Pro Thr Ile Leu Ser Met Ala
 260 265 270
 Ala Val Val Ile Val Gly Ala Leu Leu Thr Val Phe Ile Glu Ser Arg
 275 280 285
 Ala Ser Gln Pro Leu Ile Pro Val Gln Leu Phe Lys Asn Arg Asn Met
 290 295 300
 Val Leu Thr Thr Leu Ala Gly Thr Val Leu Gly Leu Ala Met Met Gly
 305 310 315 320
 Val Leu Gly Tyr Met Pro Thr Tyr Leu Gln Met Val His Thr Leu Thr
 325 330 335
 Pro Thr Glu Ala Gly Leu Met Met Ile Pro Met Met Val Gly Met Ile
 340 345 350
 Gly Val Ser Thr Gly Val Gly Phe Ile Ile Ala Lys Thr Gly Asn Tyr
 355 360 365
 Lys Tyr Tyr Pro Ile Ala Gly Leu Ala Ile Thr Ala Phe Ala Leu Trp
 370 375 380
 Trp Met Ser Gln Met Thr Val Glu Thr Ser Leu Thr Gly Ile Gly Val
 385 390 395 400
 Arg Phe Leu Val Phe Gly Val Gly Leu Gly Phe Val Met Gln Val Leu
 405 410 415
 Val Leu Ile Val Gln Asn Ser Phe Pro Val Ser Gln Val Gly Thr Ala
 420 425 430
 Thr Ala Ala Asn Asn Phe Phe Arg Gln Ile Gly Ser Ala Leu Gly Ala
 435 440 445
 Ser Ile Val Gly Ser Met Phe Ile His Asn Met Gln Asn Glu Met Ala
 450 455 460
 Thr Arg Leu Pro Asp Ala Leu Ala Ser Leu Gly Lys Glu Gly Ala Ala
 465 470 475 480
 Ile Ser Gln Gln Phe Gln Gly Ala Asp Ala Ala Asn Ser Leu Thr Pro
 485 490 495
 His Ala Val Ala Glu Leu Pro Asp Val Leu Arg Asp Ala Ile Leu Asn
 500 505 510
 Ser Tyr Asn Asp Gly Leu Thr Pro Val Ile Gly Met Met Val Pro Leu
 515 520 525
 Ala Ile Val Ala Met Leu Ile Leu Phe Pro Leu Arg Gln Glu Arg Leu
 530 535 540
 Lys Glu Thr Ile Glu
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<210> 3
 <211> 2312
 <212> DNA
 <213> Unknown

<220>
 <223> impE1E2

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 attccccgac gcacctttt taattattc agcacgaaag aaagcgccgt tattggcgcg 240
 tcctcggaac cggtgacgga aaagcaacgc aatgacttct tgaatgctga cgccagcaat 300
 ctctgcagc tgatgggtga gcagatcaaa caacacttgg agtcttctca ccagagtcaa 360
 gcgattcacg accgtcgtca gcgaatctt gcggatccgg atgtcgcggt acgtgcaatg 420
 gcgtttcgca aggaacgctc acgggaaacc atggagctaa tcgctcaacg tcttcgggag 480
 catcctgaag aacaacgcgc cccagaattg gatccggaaa cagaggcgat gctgctgagc 540
 ggattcattc gcgaagccac ctggatggct atctcacgac ccgatcgtga ttgtgactg 600
 ccagtgggtg accgcatcta tcgcgcgatg gaattggtaa agaattacac gaaaggactg 660
 gaatggtagc taaaaactcc accccaagca cggccggcca cgccagtgtc cacactgcgg 720
 aagaattccc agtggccaat gctgaaatgg caacgccttc agcaatcgac ccaaaccacg 780
 gtaaaaagac cgcgataac gtcggcata tcttcgctgc cttgatgctc accatgctga 840
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 ttgtggctga ggttgctctc gcacgtgagc gcggcaagtt catgggtatt atgggcggcg 1200
 tctttggcgt ctctccgta ctgggtccag ttctcgggtg ctgggtcacc gatgtcccg 1260
 gttggcggtg gggcctgtgg atcaacattc cactgggtct gctggcaatt attgtctgcg 1320
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 ttgcggccat cgcaatcacg accagcacc caggtctgct caccacttgg ggcggaagcg 1440
 aatagagtg gacttcccca actattttgt ccatggctgc cgtagtcac gtcggcgcg 1500

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tgctcaccgt gttcattgag tcgctgcat cccagccgct gatcccggtt cagctattta	1560
agaaccgcaa catggttttg accaccctcg ccggtactgt ttgggtctg gccatgatgg	1620
gcggtctcgg ctacatgcca acctacctgc agatggtgca caccctgacg ccaactgaag	1680
caggcttgat gatgatcccg atgatggtcg gcatgatcgg tgtctccact ggtgttggt	1740
tcatcatcgc taagaccggc aactacaagt actaccccat cgcgggcctg gccatcacgg	1800
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ttcaaaactc cttccctgta tcgcaggctg gtactgccac ggcggctaata aacttcttc	1980
gccagattgg ttggcattg ggtgcttcca tcgtgggttc gatgttcatt cacaatatgc	2040
agaatgagat ggctaccctg ttgctgatg cccttgcatc gttgggcaag gaaggcgccg	2100
ctatttcgca gcagttccaa ggtgcagatg ccgccaactc cttgactccg cacgcagtcg	2160
cagagcttcc cgatgtctc cgtgacgcta tcttaaattc ctacaatgac ggtctgacct	2220
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<210> 4
 <211> 669
 <212> DNA
 <213> Unknown

<220>
 <223> ImpE1

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ttggttgatg aatcgagctt tgacaaagta acaattgaag aaatttgca agccgcccgg	180
attcccgac gcacctttt taattattc agcacgaaag aaagcgccgt tattggcgcg	240
tcctcggaac cggtgacgga aaagcaacgc aatgacttct tgaatgctga cgccagcaat	300
ctcctgcagc tgatggttga gcagatcaaa caacacttgg agtcttctca ccagagtcaa	360
gcgattcacg accgtcgtca gcgaatctt gcggatccgg atgtcgcggt acgtgcaatg	420
gcgtttcgca aggaacgctc acgggaaacc atggagctaa tcgctcaacg tcttcgggag	480
catcctgaag aacaacgcgc cccagaattg gatccggaaa cagaggcgat gctgctgagc	540
ggattcattc gcgaagccac ctggatggct atctcacgac ccgatcgtga ttgtgcactg	600
ccagtgggtg accgcatcta tcgcgcgatg gaattggtaa agaattacac gaaaggactg	660

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gaatggtag

669

<210> 5
<211> 1650
<212> DNA
<213> Unknown

<220>
<223> ImpE2

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aaaaagaccg cggataacgt cggcattatc ttcgtgcct tgatgtcac catgtgatg 180
agctcttgg ggcagatgat ttccggttc gctctgcaa ccatcgtcgg cgagctcggc 240
ggcgtggacc agatgagctg ggtaatttca gcatttatgg tcaccatgac cattgctatg 300
ccactagccg gtcagctcgg tgaccgcatg ggccgcaagt ggggtctacat ctacaggtatc 360
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aaccgcaaca tggttttgac caccctcgcc ggtactgtt tgggtctggc catgatgggc 960
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cagattgggt cggcattggg tgctccatc gtgggttcga tgttcattca caatatgcag 1380
aatgagatgg ctaccggtt gcctgatgcc ctgcatcgt tgggcaagga aggcgccgct 1440

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atttcgcagc agttccaagg tgcagatgcc gccaaactcct tgactccgca cgcagtcgca 1500
gagcttcccg atgtcctccg tgacgctatc ttaaattcct acaatgacgg tctgaccccc 1560
gtgattggca tgatggtgcc actggccatt gttgcaatgc tgattttgtt cccactgcgc 1620
caagagcgct tgaaggaaac catcgaataa 1650

<210> 6
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<212> DNA
<213> Artificial Sequence

<220>
<223> impE1 kop-1

<400> 6
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<210> 7
<211> 36
<212> DNA
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<223> impE1 kop-2

<400> 7
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<210> 8
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> impE1 kop-3

<400> 8
gcacggggtg taacaatggt agctaaaaac tccacc 36

<210> 9
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> impE1 kop-4

<400> 9
gctctagaaa tagttgggga agtcactc 29

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<210> 10
 <211> 29
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 <213> Artificial Sequence

<220>
 <223> impE2 kop-1

<400> 10
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<210> 11
 <211> 36
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> impE2 kop-2

<400> 11
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<210> 12
 <211> 36
 <212> DNA
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<220>
 <223> impE2 kop-3

<400> 12
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<210> 13
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<220>
 <223> impE2 kop-4

<400> 13
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<210> 14
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 <223> impE1E2 kop-2

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aaggaaaaa gcggccgcga acggagtcac ctcctttgc	39
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<220>
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<220>
 <223> impE1E2 2-2

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<210> 21
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<220>
 <223> impE1E2 2-4

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<210> 22
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 <223> impE1 Pcj7-1

<400> 22
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<210> 23
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<220>
 <223> impE1 Pcj7-2

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<210> 24
 <211> 31
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> impE1 Pcj7–3

 <400> 24
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 <210> 25
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 <212> DNA
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 <220>
 <223> impE1 Pcj7–4

 <400> 25
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 <210> 26
 <211> 29
 <212> DNA
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 <220>
 <223> impE2 Pcj7–1

 <400> 26
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 <210> 27
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OPA18596–sequence listing

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