

PU65961-seq1-000001

SEQUENCE LISTING

<110> GlaxoSmithKline LLC
Bam, Narendra
Monck, Myrna
Dally, Jennifer
Spatara, Michelle

<120> BIOPHARMACEUTICAL COMPOSITIONS

<130> PU65961P3

<150> 62/249,497

<151> 2015-11-02

<150> 62/247,906

<151> 2015-10-29

<150> 62/240,131

<151> 2015-10-12

<150> 62/209,000

<151> 2015-08-24

<160> 14

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<210> 1

<211> 449

<212> PRT

<213> Artificial Sequence

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<223> Amino acid sequence identified using molecular
biology techniques.

<400> 1

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Thr	Leu	Thr	Leu	Thr	Cys	Thr	Val	Ser	Gly	Phe	Ser	Leu	Thr	Ser	Tyr
			20					25					30		
Ser	Val	His	Trp	Val	Arg	Gln	Pro	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Leu
		35				40						45			
Gly	Val	Ile	Trp	Ala	Ser	Gly	Gly	Thr	Asp	Tyr	Asn	Ser	Ala	Leu	Met
	50					55					60				
Ser	Arg	Leu	Ser	Ile	Ser	Lys	Asp	Thr	Ser	Arg	Asn	Gln	Val	Val	Leu

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65					70				75					80	
Thr	Met	Thr	Asn	Met	Asp	Pro	Val	Asp	Thr	Ala	Thr	Tyr	Tyr	Cys	Ala
				85					90					95	
Arg	Asp	Pro	Pro	Ser	Ser	Leu	Leu	Arg	Leu	Asp	Tyr	Trp	Gly	Arg	Gly
			100					105					110		
Thr	Pro	Val	Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys	Gly	Pro	Ser	Val	Phe
		115					120					125			
Pro	Leu	Ala	Pro	Ser	Ser	Lys	Ser	Thr	Ser	Gly	Gly	Thr	Ala	Ala	Leu
	130					135					140				
Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	Thr	Val	Ser	Trp
145					150				155						160
Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr	Phe	Pro	Ala	Val	Leu
				165				170						175	
Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	Thr	Val	Pro	Ser
			180					185					190		
Ser	Ser	Leu	Gly	Thr	Gln	Thr	Tyr	Ile	Cys	Asn	Val	Asn	His	Lys	Pro
		195					200					205			
Ser	Asn	Thr	Lys	Val	Asp	Lys	Arg	Val	Glu	Pro	Lys	Ser	Cys	Asp	Lys
	210					215					220				
Thr	His	Thr	Cys	Pro	Pro	Cys	Pro	Ala	Pro	Glu	Leu	Leu	Gly	Gly	Pro
225					230					235					240
Ser	Val	Phe	Leu	Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser
				245					250					255	
Arg	Thr	Pro	Glu	Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	His	Glu	Asp
			260					265					270		
Pro	Glu	Val	Lys	Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn
		275					280					285			
Ala	Lys	Thr	Lys	Pro	Arg	Glu	Glu	Gln	Tyr	Asn	Ser	Thr	Tyr	Arg	Val
	290					295				300					
Val	Ser	Val	Leu	Thr	Val	Leu	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu
305					310				315						320
Tyr	Lys	Cys	Lys	Val	Ser	Asn	Lys	Ala	Leu	Pro	Ala	Pro	Ile	Glu	Lys
				325					330					335	
Thr	Ile	Ser	Lys	Ala	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr	Thr
			340					345					350		
Leu	Pro	Pro	Ser	Arg	Glu	Glu	Met	Thr	Lys	Asn	Gln	Val	Ser	Leu	Thr
		355					360					365			
Cys	Leu	Val	Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu	Trp	Glu
	370					375				380					
Ser	Asn	Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro	Val	Leu
385					390				395						400
Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Lys	Leu	Thr	Val	Asp	Lys
				405				410						415	
Ser	Arg	Trp	Gln	Gln	Gly	Asn	Val	Phe	Ser	Cys	Ser	Val	Met	His	Glu
			420					425					430		
Ala	Leu	His	Asn	His	Tyr	Thr	Gln	Lys	Ser	Leu	Ser	Leu	Ser	Pro	Gly
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Lys															

<210> 2
 <211> 220
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Amino acid sequence identified using molecular
 biology techniques.

<400> 2
 Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
 1 5 10 15
 Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Leu Leu Asn Ser
 20 25 30
 Gly Asn Gln Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln
 35 40 45
 Pro Pro Lys Leu Leu Ile Tyr Gly Ala Ser Thr Arg Glu Ser Gly Val
 50 55 60
 Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
 65 70 75 80
 Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Asn
 85 90 95
 Val His Ser Phe Pro Phe Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile
 100 105 110
 Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp
 115 120 125
 Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn
 130 135 140
 Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu
 145 150 155 160
 Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp
 165 170 175
 Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr
 180 185 190
 Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser
 195 200 205
 Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 210 215 220

<210> 3
 <211> 119
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Amino acid sequence identified using molecular biology techniques.

<400> 3

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Gln Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
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Thr Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Thr Ser Tyr
 20           25           30
Ser Val His Trp Val Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Leu
 35           40           45
Gly Val Ile Trp Ala Ser Gly Gly Thr Asp Tyr Asn Ser Ala Leu Met
 50           55           60
Ser Arg Leu Ser Ile Ser Lys Asp Thr Ser Arg Asn Gln Val Val Leu
 65           70           75           80
Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr Cys Ala
 85           90           95
Arg Asp Pro Pro Ser Ser Leu Leu Arg Leu Asp Tyr Trp Gly Arg Gly
 100          105          110
Thr Pro Val Thr Val Ser Ser
 115

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<210> 4

<211> 113

<212> PRT

<213> Artificial Sequence

<220>

<223> Amino acid sequence identified using molecular biology techniques.

<400> 4

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Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
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Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Leu Leu Asn Ser
 20           25           30
Gly Asn Gln Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln
 35           40           45
Pro Pro Lys Leu Leu Ile Tyr Gly Ala Ser Thr Arg Glu Ser Gly Val
 50           55           60
Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
 65           70           75           80
Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Asn
 85           90           95
Val His Ser Phe Pro Phe Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile
 100          105          110
Lys

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

<220>
<223> Amino acid sequence identified using molecular
biology techniques.

<400> 5
Ser Tyr Ser Val His
1 5

<210> 6
<211> 16
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<213> Artificial Sequence

<220>
<223> Amino acid sequence identified using molecular
biology techniques.

<400> 6
Val Ile Trp Ala Ser Gly Gly Thr Asp Tyr Asn Ser Ala Leu Met Ser
1 5 10 15

<210> 7
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
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biology techniques.

<400> 7
Asp Pro Pro Ser Ser Leu Leu Arg Leu Asp Tyr
1 5 10

<210> 8
<211> 17
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<213> Artificial Sequence

<220>

<223> Amino acid sequence identified using molecular biology techniques.

<400> 8

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Ala															

<210> 9

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<212> PRT

<213> Artificial Sequence

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<400> 9

Gly	Ala	Ser	Thr	Arg	Glu	Ser
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<210> 10

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

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<400> 10

Gln	Asn	Val	His	Ser	Phe	Pro	Phe	Thr
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<210> 11

<211> 115

<212> PRT

<213> Artificial Sequence

<220>

<223> Amino acid sequence identified using molecular

biology techniques.

<400> 11

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Ile Pro Thr Glu Ile Pro Thr Ser Ala Leu Val Lys Glu Thr Leu Ala
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Leu Leu Ser Thr His Arg Thr Leu Leu Ile Ala Asn Glu Thr Leu Arg
          20           25           30
Ile Pro Val Pro Val His Lys Asn His Gln Leu Cys Thr Glu Glu Ile
          35           40           45
Phe Gln Gly Ile Gly Thr Leu Glu Ser Gln Thr Val Gln Gly Gly Thr
          50           55           60
Val Glu Arg Leu Phe Lys Asn Leu Ser Leu Ile Lys Lys Tyr Ile Asp
65           70           75           80
Gly Gln Lys Lys Lys Cys Gly Glu Glu Arg Arg Arg Val Asn Gln Phe
          85           90           95
Leu Asp Tyr Leu Gln Glu Phe Leu Gly Val Met Asn Thr Glu Trp Ile
          100          105          110
Ile Glu Ser
          115

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<210> 12

<211> 400

<212> PRT

<213> Artificial Sequence

<220>

<223> Amino acid sequence identified using molecular
biology techniques.

<400> 12

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Asp Leu Leu Pro Asp Glu Lys Ile Ser Leu Leu Pro Pro Val Asn Phe
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Thr Ile Lys Val Thr Gly Leu Ala Gln Val Leu Leu Gln Trp Lys Pro
          20           25           30
Asn Pro Asp Gln Glu Gln Arg Asn Val Asn Leu Glu Tyr Gln Val Lys
          35           40           45
Ile Asn Ala Pro Lys Glu Asp Asp Tyr Glu Thr Arg Ile Thr Glu Ser
          50           55           60
Lys Cys Val Thr Ile Leu His Lys Gly Phe Ser Ala Ser Val Arg Thr
65           70           75           80
Ile Leu Gln Asn Asp His Ser Leu Leu Ala Ser Ser Trp Ala Ser Ala
          85           90           95
Glu Leu His Ala Pro Pro Gly Ser Pro Gly Thr Ser Ile Val Asn Leu
          100          105          110
Thr Cys Thr Thr Asn Thr Thr Glu Asp Asn Tyr Ser Arg Leu Arg Ser
          115          120          125
Tyr Gln Val Ser Leu His Cys Thr Trp Leu Val Gly Thr Asp Ala Pro

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Glu Cys Gln Glu Tyr Ser Lys Asp Thr Leu Gly Arg Asn Ile Ala Cys					
	165		170		175
Trp Phe Pro Arg Thr Phe Ile Leu Ser Lys Gly Arg Asp Trp Leu Ala					
	180		185		190
Val Leu Val Asn Gly Ser Ser Lys His Ser Ala Ile Arg Pro Phe Asp					
	195		200		205
Gln Leu Phe Ala Leu His Ala Ile Asp Gln Ile Asn Pro Pro Leu Asn					
	210		215		220
Val Thr Ala Glu Ile Glu Gly Thr Arg Leu Ser Ile Gln Trp Glu Lys					
225		230		235	240
Pro Val Ser Ala Phe Pro Ile His Cys Phe Asp Tyr Glu Val Lys Ile					
	245		250		255
His Asn Thr Arg Asn Gly Tyr Leu Gln Ile Glu Lys Leu Met Thr Asn					
	260		265		270
Ala Phe Ile Ser Ile Ile Asp Asp Leu Ser Lys Tyr Asp Val Gln Val					
	275		280		285
Arg Ala Ala Val Ser Ser Met Cys Arg Glu Ala Gly Leu Trp Ser Glu					
	290		295		300
Trp Ser Gln Pro Ile Tyr Val Gly Asn Asp Glu His Lys Pro Leu Arg					
305		310		315	320
Glu Trp Phe Val Ile Val Ile Met Ala Thr Ile Cys Phe Ile Leu Leu					
	325		330		335
Ile Leu Ser Leu Ile Cys Lys Ile Cys His Leu Trp Ile Lys Leu Phe					
	340		345		350
Pro Pro Ile Pro Ala Pro Lys Ser Asn Ile Lys Asp Leu Phe Val Thr					
	355		360		365
Thr Asn Tyr Glu Lys Ala Gly Ser Ser Glu Thr Glu Ile Glu Val Ile					
	370		375		380
Cys Tyr Ile Glu Lys Pro Gly Val Glu Thr Leu Glu Asp Ser Val Phe					
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<210> 13

<211> 1347

<212> DNA

<213> Artificial Sequence

<220>

<223> Nucleic acid sequence identified using molecular biology techniques.

<400> 13

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 ccgggtaaag gtctagaatg gctgggtgta atatgggcta gtggaggcac agattataat 180

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tcttccttac tacggcttga ctactggggg cgtgggtaccc cagttaccgt gagctcagct 360
agtaccaagg gcccacgggt cttccccctg gcacccctct ccaagagcac ctctgggggc 420
acagcggccc tgggctgcct ggtcaaggac tacttccccg aaccggtgac ggtgtcgtgg 480
aactcaggcg ccctgaccag cggcgtgcac accttcccgg ctgtcctaca gtcctcagga 540
ctctactccc tcagcagcgt ggtgaccgtg ccctccagca gcttgggcac ccagacctac 600
atctgcaacg tgaatcaca gcccagcaac accaagggtg acaagagagt tgagcccaa 660
tcttgtgaca aaactcacac atgcccaccg tgcccagcac ctgaactcct ggggggaccg 720
tcagtcttcc tcttcccccc aaaacccaag gacaccctca tgatctcccg gaccctgag 780
gtcacatgcg tgggtggtgga cgtgagccac gaagaccctg aggtcaagtt caactggtac 840
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acgtaccgtg tggtcagcgt cctcaccgtc ctgcaccagg actggctgaa tggcaaggag 960
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gactccgacg gctccttctt cctctatagc aagctcaccg tggacaagag caggtggcag 1260
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<210> 14

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<212> DNA

<213> Artificial Sequence

<220>

<223> Nucleic acid sequence identified using molecular biology techniques.

<400> 14

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tggtatcagc agaaacccgg gcagcctcct aagttgctca ttacggggc gtcgactagg 180
gaatctgggg tacctgaccg attcagtggc agcgggtctg ggacagattt cactctcacc 240
atcagcagcc tgcaggctga agatgtggca gtatactact gtcagaatgt tcatagtttt 300
ccattcacgt tcggcggagg gaccaagttg gagatcaaac gtactgtggc ggcgccatct 360
gtcttcatct tcccgccatc tgatgagcag ttgaaatctg gaactgcctc tgttgtgtgc 420
ctgctgaata acttctatcc cagagaggcc aaagtacagt ggaagggtgga taacgccctc 480
caatcgggta actcccagga gagtgtcaca gagcaggaca gcaaggacag cacctacagc 540
ctcagcagca ccctgacgct gagcaaagca gactacgaga aacacaaagt ctacgcctgc 600
gaagtcaccc atcagggcct gagctcgccc gtcacaaaga gcttcaacag gggagagtgt 660

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