SEQUENCE LISTING

<110> Biodesix, Inc.
GlobeImmune, Inc.
Roder, Joanna
Roder, Heinrich

<120> Mass-Spectral Method for Selection, and De-Selection, of Cancer Patients for Treatment With Immune Response Generating Therapies

<130> 12-621-PRO

<160> 8

<170> PatentIn version 3.5

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Met Val Leu Asp Thr Ala Gly Leu Glu Glu Tyr Ser Ala Met Thr Glu
1               5                  10                  15

tat aaa ctt gtg gtg gtt gga gct gtt ggc gta ggc aag agc gcc ttg          96
Tyr Lys Leu Val Val Val Gly Ala Val Gly Val Gly Lys Ser Ala Leu
            20                  25                  30

acg ata cag cta att cag aat cac ttt gtg gat gag tac gac cct acg         144
Thr Ile Gln Leu Ile Gln Asn His Phe Val Asp Glu Tyr Asp Pro Thr
        35                  40                  45

ata gag gac tcc tac agg aaa caa gta gta att gat gga gaa acc tgt         192
Ile Glu Asp Ser Tyr Arg Lys Gln Val Val Ile Asp Gly Glu Thr Cys
    50                  55                  60

ctc ttg gat att ctc gac aca gca ggt cga gag gag tac agt gca atg         240
Leu Leu Asp Ile Leu Asp Thr Ala Gly Arg Glu Glu Tyr Ser Ala Met
65                  70                  75                  80

agg gac cag tac atg aga act ggg gag ggc ttt ctt tgt gta ttt gcc         288
Arg Asp Gln Tyr Met Arg Thr Gly Glu Gly Phe Leu Cys Val Phe Ala
                85                  90                  95

ata aat aat act aaa tca ttt gaa gat att cac cat tat aga gaa caa         336
Ile Asn Asn Thr Lys Ser Phe Glu Asp Ile His His Tyr Arg Glu Gln
            100                 105                 110

att aaa aga gta aag gac tct gaa gat gtg cct atg gtc ctg gta ggg         384
Ile Lys Arg Val Lys Asp Ser Glu Asp Val Pro Met Val Leu Val Gly
        115                 120                 125

aat aag tgt gat ttg cct tct aga aca gta gac acg aaa cag gct cag         432
Asn Lys Cys Asp Leu Pro Ser Arg Thr Val Asp Thr Lys Gln Ala Gln
    130                 135                 140

gag tta gca agg agt tac ggg att ccg ttc att gag acc tca gca aag         480
Glu Leu Ala Arg Ser Tyr Gly Ile Pro Phe Ile Glu Thr Ser Ala Lys
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145                 150                 155                 160

aca aga cag ggt gtt gac gat gcc ttc tat aca tta gtc cga gaa att        528
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cga aaa tag                                                        537
Arg Lys
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Tyr Lys Leu Val Val Val Gly Ala Val Gly Val Gly Lys Ser Ala Leu
            20                  25                  30

Thr Ile Gln Leu Ile Gln Asn His Phe Val Asp Glu Tyr Asp Pro Thr
        35                  40                  45

Ile Glu Asp Ser Tyr Arg Lys Gln Val Val Ile Asp Gly Glu Thr Cys
    50                  55                  60

Leu Leu Asp Ile Leu Asp Thr Ala Gly Arg Glu Glu Tyr Ser Ala Met
65                  70                  75                  80

Arg Asp Gln Tyr Met Arg Thr Gly Glu Gly Phe Leu Cys Val Phe Ala
                85                  90                  95

Ile Asn Asn Thr Lys Ser Phe Glu Asp Ile His His Tyr Arg Glu Gln
            100                 105                 110

Ile Lys Arg Val Lys Asp Ser Glu Asp Val Pro Met Val Leu Val Gly
        115                 120                 125

Asn Lys Cys Asp Leu Pro Ser Arg Thr Val Asp Thr Lys Gln Ala Gln
    130                 135                 140

Glu Leu Ala Arg Ser Tyr Gly Ile Pro Phe Ile Glu Thr Ser Ala Lys
145                 150                 155                 160

Thr Arg Gln Gly Val Asp Asp Ala Phe Tyr Thr Leu Val Arg Glu Ile
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Arg Lys
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Met Val Leu Asp Thr Ala Gly Leu Glu Glu Tyr Ser Ala Met Thr Glu
1               5                  10                  15

tat aaa ctt gtg gtg gtt gga gct tgt ggc gta ggc aag agc gcc ttg          96
Tyr Lys Leu Val Val Val Gly Ala Cys Gly Val Gly Lys Ser Ala Leu
            20                  25                  30

acg ata cag cta att cag aat cac ttt gtg gat gag tac gac cct acg         144
Thr Ile Gln Leu Ile Gln Asn His Phe Val Asp Glu Tyr Asp Pro Thr
        35                  40                  45

ata gag gac tcc tac agg aaa caa gta gta att gat gga gaa acc tgt         192
Ile Glu Asp Ser Tyr Arg Lys Gln Val Val Ile Asp Gly Glu Thr Cys
    50                  55                  60

ctc ttg gat att ctc gac aca gca ggt cga gag gag tac agt gca atg         240
Leu Leu Asp Ile Leu Asp Thr Ala Gly Arg Glu Glu Tyr Ser Ala Met
65                  70                  75                  80

agg gac cag tac atg aga act ggg gag ggc ttc ctt tgt gta ttt gcc         288
Arg Asp Gln Tyr Met Arg Thr Gly Glu Gly Phe Leu Cys Val Phe Ala
                85                  90                  95

ata aat aat act aaa tca ttt gaa gat att cac cat tat aga gaa caa         336
Ile Asn Asn Thr Lys Ser Phe Glu Asp Ile His His Tyr Arg Glu Gln
            100                 105                 110

att aaa aga gta aag gac tct gaa gat gtg cct atg gtc ctg gta ggg         384
Ile Lys Arg Val Lys Asp Ser Glu Asp Val Pro Met Val Leu Val Gly
        115                 120                 125

aat aag tgt gat ttg cct tct aga aca gta gac acg aaa cag gct cag         432
Asn Lys Cys Asp Leu Pro Ser Arg Thr Val Asp Thr Lys Gln Ala Gln
    130                 135                 140

gag tta gca agg agt tac ggg att ccg ttc att gag acc tca gca aag         480
Glu Leu Ala Arg Ser Tyr Gly Ile Pro Phe Ile Glu Thr Ser Ala Lys
145                 150                 155                 160

aca aga cag ggt gtt gac gat gcc ttc tat aca tta gtc cga gaa att         528
Thr Arg Gln Gly Val Asp Asp Ala Phe Tyr Thr Leu Val Arg Glu Ile
                165                 170                 175

cga aaa tag                                                             537
Arg Lys
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Met Val Leu Asp Thr Ala Gly Leu Glu Glu Tyr Ser Ala Met Thr Glu
1               5                  10                  15

Tyr Lys Leu Val Val Val Gly Ala Cys Gly Val Gly Lys Ser Ala Leu
            20                  25                  30

Thr Ile Gln Leu Ile Gln Asn His Phe Val Asp Glu Tyr Asp Pro Thr
        35                  40                  45

Ile Glu Asp Ser Tyr Arg Lys Gln Val Val Ile Asp Gly Glu Thr Cys
    50                  55                  60

Leu Leu Asp Ile Leu Asp Thr Ala Gly Arg Glu Glu Tyr Ser Ala Met
65                  70                  75                  80

Arg Asp Gln Tyr Met Arg Thr Gly Glu Gly Phe Leu Cys Val Phe Ala
                85                  90                  95

Ile Asn Asn Thr Lys Ser Phe Glu Asp Ile His His Tyr Arg Glu Gln
            100                 105                 110

Ile Lys Arg Val Lys Asp Ser Glu Asp Val Pro Met Val Leu Val Gly
        115                 120                 125

Asn Lys Cys Asp Leu Pro Ser Arg Thr Val Asp Thr Lys Gln Ala Gln
    130                 135                 140

Glu Leu Ala Arg Ser Tyr Gly Ile Pro Phe Ile Glu Thr Ser Ala Lys
145                 150                 155                 160

Thr Arg Gln Gly Val Asp Asp Ala Phe Tyr Thr Leu Val Arg Glu Ile
                165                 170                 175

Arg Lys
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Met Val Leu Asp Thr Ala Gly Leu Glu Glu Tyr Ser Ala Met Thr Glu
1               5                  10                  15

tat aaa ctt gtg gtg gtt gga gct gat ggc gta ggc aag agc gcc ttg          96
Tyr Lys Leu Val Val Val Gly Ala Asp Gly Val Gly Lys Ser Ala Leu
            20                  25                  30

acg ata cag cta att cag aat cac ttt gtg gat gag tac gac cct acg         144
Thr Ile Gln Leu Ile Gln Asn His Phe Val Asp Glu Tyr Asp Pro Thr
        35                  40                  45

ata gag gac tcc tac agg aaa caa gta gta att gat gga gaa acc tgt         192
Ile Glu Asp Ser Tyr Arg Lys Gln Val Val Ile Asp Gly Glu Thr Cys
    50                  55                  60

ctc ttg gat att ctc gac aca gca ggt cga gag gag tac agt gca atg         240
Leu Leu Asp Ile Leu Asp Thr Ala Gly Arg Glu Glu Tyr Ser Ala Met
65                  70                  75                  80

agg gac cag tac atg aga act ggg gag ggc ttt ctt tgt gta ttt gcc         288
Arg Asp Gln Tyr Met Arg Thr Gly Glu Gly Phe Leu Cys Val Phe Ala
                85                  90                  95

ata aat aat act aaa tca ttt gaa gat att cac cat tat aga gaa caa         336
Ile Asn Asn Thr Lys Ser Phe Glu Asp Ile His His Tyr Arg Glu Gln
            100                 105                 110

att aaa aga gta aag gac tct gaa gat gtg cct atg gtc ctg gta ggg         384
Ile Lys Arg Val Lys Asp Ser Glu Asp Val Pro Met Val Leu Val Gly
        115                 120                 125

aat aag tgt gat ttg cct tct aga aca gta gac acg aaa cag gct cag         432
Asn Lys Cys Asp Leu Pro Ser Arg Thr Val Asp Thr Lys Gln Ala Gln
    130                 135                 140

gag tta gca agg agt tac ggg att ccg ttc att gag acc tca gca aag         480
Glu Leu Ala Arg Ser Tyr Gly Ile Pro Phe Ile Glu Thr Ser Ala Lys
145                 150                 155                 160

aca aga cag ggt gtt gac gat gcc ttc tat aca tta gtc cga gaa att         528
Thr Arg Gln Gly Val Asp Asp Ala Phe Tyr Thr Leu Val Arg Glu Ile
                165                 170                 175

cga aaa tag                                                             537
Arg Lys
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Tyr Lys Leu Val Val Val Gly Ala Asp Gly Val Gly Lys Ser Ala Leu
            20                  25                  30


Thr Ile Gln Leu Ile Gln Asn His Phe Val Asp Glu Tyr Asp Pro Thr
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        35                  40                  45

Ile Glu Asp Ser Tyr Arg Lys Gln Val Val Ile Asp Gly Glu Thr Cys
    50                  55                  60

Leu Leu Asp Ile Leu Asp Thr Ala Gly Arg Glu Glu Tyr Ser Ala Met
65                  70                  75                  80

Arg Asp Gln Tyr Met Arg Thr Gly Glu Gly Phe Leu Cys Val Phe Ala
                85                  90                  95

Ile Asn Asn Thr Lys Ser Phe Glu Asp Ile His His Tyr Arg Glu Gln
            100                 105                 110

Ile Lys Arg Val Lys Asp Ser Glu Asp Val Pro Met Val Leu Val Gly
        115                 120                 125

Asn Lys Cys Asp Leu Pro Ser Arg Thr Val Asp Thr Lys Gln Ala Gln
    130                 135                 140

Glu Leu Ala Arg Ser Tyr Gly Ile Pro Phe Ile Glu Thr Ser Ala Lys
145                 150                 155                 160

Thr Arg Gln Gly Val Asp Asp Ala Phe Tyr Thr Leu Val Arg Glu Ile
                165                 170                 175

Arg Lys
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Met Val Leu Asp Thr Ala Gly Leu Glu Glu Tyr Ser Ala Met Thr Glu
1               5                   10                  15

tat aaa ctt gtg gtg gtt gga gct cgt ggc gta ggc aag agc gcc ttg          96
Tyr Lys Leu Val Val Val Gly Ala Arg Gly Val Gly Lys Ser Ala Leu
            20                  25                  30

acg ata cag cta att cag aat cac ttt gtg gat gag tac gac cct acg         144
Thr Ile Gln Leu Ile Gln Asn His Phe Val Asp Glu Tyr Asp Pro Thr
        35                  40                  45

ata gag gac tcc tac agg aaa caa gta gta att gat gga gaa acc tgt         192
Ile Glu Asp Ser Tyr Arg Lys Gln Val Val Ile Asp Gly Glu Thr Cys
    50                  55                  60
```

```
ctc ttg gat att ctc gac aca gca ggt cac gag gag tac agt gca atg        240
Leu Leu Asp Ile Leu Asp Thr Ala Gly His Glu Glu Tyr Ser Ala Met
65                  70                  75                  80

agg gac cag tac atg aga act ggg gag ggc ttt ctt tgt gta ttt gcc        288
Arg Asp Gln Tyr Met Arg Thr Gly Glu Gly Phe Leu Cys Val Phe Ala
                85                  90                  95

ata aat aat act aaa tca ttt gaa gat att cac cat tat aga gaa caa        336
Ile Asn Asn Thr Lys Ser Phe Glu Asp Ile His His Tyr Arg Glu Gln
            100                 105                 110

att aaa aga gta aag gac tct gaa gat gtg cct atg gtc ctg gta ggg        384
Ile Lys Arg Val Lys Asp Ser Glu Asp Val Pro Met Val Leu Val Gly
        115                 120                 125

aat aag tgt gat ttg cct tct aga aca gta gac acg aaa cag gct cag        432
Asn Lys Cys Asp Leu Pro Ser Arg Thr Val Asp Thr Lys Gln Ala Gln
    130                 135                 140

gag tta gca agg agt tac ggg att ccg ttc att gag acc tca gca aag        480
Glu Leu Ala Arg Ser Tyr Gly Ile Pro Phe Ile Glu Thr Ser Ala Lys
145                 150                 155                 160

aca aga cag ggt gtt gac gat gcc ttc tat aca tta gtc cga gaa att        528
Thr Arg Gln Gly Val Asp Asp Ala Phe Tyr Thr Leu Val Arg Glu Ile
                165                 170                 175

cga aaa tag                                                           537
Arg Lys
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Met Val Leu Asp Thr Ala Gly Leu Glu Glu Tyr Ser Ala Met Thr Glu
1               5                   10                  15

Tyr Lys Leu Val Val Val Gly Ala Arg Gly Val Gly Lys Ser Ala Leu
            20                  25                  30

Thr Ile Gln Leu Ile Gln Asn His Phe Val Asp Glu Tyr Asp Pro Thr
        35                  40                  45

Ile Glu Asp Ser Tyr Arg Lys Gln Val Val Ile Asp Gly Glu Thr Cys
    50                  55                  60

Leu Leu Asp Ile Leu Asp Thr Ala Gly His Glu Glu Tyr Ser Ala Met
65                  70                  75                  80

Arg Asp Gln Tyr Met Arg Thr Gly Glu Gly Phe Leu Cys Val Phe Ala
                85                  90                  95
```

```
Ile Asn Asn Thr Lys Ser Phe Glu Asp Ile His His Tyr Arg Glu Gln
            100                 105                 110

Ile Lys Arg Val Lys Asp Ser Glu Asp Val Pro Met Val Leu Val Gly
        115                 120                 125

Asn Lys Cys Asp Leu Pro Ser Arg Thr Val Asp Thr Lys Gln Ala Gln
    130                 135                 140

Glu Leu Ala Arg Ser Tyr Gly Ile Pro Phe Ile Glu Thr Ser Ala Lys
145                 150                 155                 160

Thr Arg Gln Gly Val Asp Asp Ala Phe Tyr Thr Leu Val Arg Glu Ile
                165                 170                 175

Arg Lys
```