

SEQUENCE LISTING

<110> Noile-Immune Biotech, Inc.

<120> Immunocompetent cell that expresses a cell surface molecule specifically recognizing human mesothelin, IL-7 and CCL19

<130> KT-07P

<150> JP2017-247109

<151> 2017-12-24

<160> 33

<170> PatentIn version 3.1

<210> 1

<211> 128

<212> PRT

<213> artificial

<220>

<223> VH07_aa

<220>

<223> Inventor: Tamada, Koji; Sakoda, Yukimi; Adachi, Keishi

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Gln Val Gln Leu Gln Gln Ser Gly Pro Gly Leu Val Thr Pro Ser Gln
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Thr Leu Ser Leu Thr Cys Ala Ile Ser Gly Asp Ser Val Ser Ser Asn
20 25 30

Ser Ala Thr Trp Asn Trp Ile Arg Gln Ser Pro Ser Arg Gly Leu Glu
35 40 45

Trp Leu Gly Arg Thr Tyr Tyr Arg Ser Lys Trp Tyr Asn Asp Tyr Ala
50 55 60

Val Ser Val Lys Ser Arg Met Ser Ile Asn Pro Asp Thr Ser Lys Asn
65 70 75 80

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

Tyr Tyr Cys Ala Arg Gly Met Met Thr Tyr Tyr Tyr Gly Met Asp Val
 100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Ile Leu Gly Ser
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Gln Pro Val Leu Thr Gln Ser Ser Ser Leu Ser Ala Ser Pro Gly Ala
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Ser Ala Ser Leu Thr Cys Thr Leu Arg Ser Gly Ile Asn Val Gly Pro
 20 25 30

Tyr Arg Ile Tyr Trp Tyr Gln Gln Lys Pro Gly Ser Pro Pro Gln Tyr
 35 40 45

Leu Leu Asn Tyr Lys Ser Asp Ser Asp Lys Gln Gln Gly Ser Gly Val
 50 55 60

Pro Ser Arg Phe Ser Gly Ser Lys Asp Ala Ser Ala Asn Ala Gly Val
 65 70 75 80

Leu Leu Ile Ser Gly Leu Arg Ser Glu Asp Glu Ala Asp Tyr Tyr Cys
 85 90 95

Met Ile Trp His Ser Ser Ala Ala Val Phe Gly Gly Gly Thr Gln Leu
 100 105 110

Thr Val Leu Ser
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Gln Val Gln Leu Gln Gln Ser Gly Pro Gly Leu Val Thr Pro Ser Gln
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Thr Leu Ser Leu Thr Cys Ala Ile Ser Gly Asp Ser Val Ser Ser Asn
20 25 30

Ser Ala Thr Trp Asn Trp Ile Arg Gln Ser Pro Ser Arg Gly Leu Glu
35 40 45

Trp Leu Gly Arg Thr Tyr Tyr Arg Ser Lys Trp Tyr Asn Asp Tyr Ala
50 55 60

Val Ser Val Lys Ser Arg Met Ser Ile Asn Pro Asp Thr Ser Lys Asn
65 70 75 80

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

Tyr Tyr Cys Ala Arg Gly Met Met Thr Tyr Tyr Tyr Gly Met Asp Val
100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Ile Leu Leu Ser
115 120 125

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Gln Pro Val Leu Thr Gln Ser Ser Ser Leu Ser Ala Ser Pro Gly Ala
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Ser Ala Ser Leu Thr Cys Thr Leu Arg Ser Gly Ile Asn Val Gly Pro
 20 25 30

Arg Ile Tyr Trp Tyr Gln Gln Lys Pro Gly Ser Pro Pro Gln Tyr Leu
 35 40 45

Leu Asn Tyr Lys Ser Asp Ser Asp Lys Gln Gln Gly Ser Gly Val Pro
 50 55 60

Ser Arg Phe Ser Gly Ser Lys Asp Ala Ser Ala Asn Ala Gly Val Leu
 65 70 75 80

Leu Ile Ser Gly Leu Arg Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Met
 85 90 95

Ile Trp His Ser Ser Ala Ala Val Phe Gly Gly Gly Thr Gln Leu Thr
 100 105 110

Val Leu Ser
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Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
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Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Gly Asn
 20 25 30

Tyr Ile Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Ile Ile Asn Pro Thr Lys Gly Trp Thr Leu Tyr Ala Gln Lys Phe
 50 55 60

Gln Gly Arg Val Thr Met Thr Arg Asp Thr Ser Ile Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Trp His His Gly Thr Trp Ile Phe Asp Tyr Trp Gly Gln Gly
 100 105 110

Thr Leu Val Thr Val Ser Ser
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Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
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Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn
 20 25 30

Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
 35 40 45

Ile Tyr Asn Asp Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
 50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
 65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Thr Tyr Asp Arg Arg Thr
 85 90 95

Phe Ser Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
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Ile Tyr Ile Trp Ala Pro Leu Ala Gly Thr Cys Gly Val Leu Leu Leu
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Ser Leu Val Ile Thr
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Arg Ser Lys Arg Ser Arg Leu Leu His Ser Asp Tyr Met Asn Met Thr
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Pro Arg Arg Pro Gly Pro Thr Arg Lys His Tyr Gln Pro Tyr Ala Pro
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Pro Arg Asp Phe Ala Ala Tyr Arg Ser
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Arg Phe Ser Val Val Lys Arg Gly Arg Lys Lys Leu Leu Tyr Ile Phe
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Lys Gln Pro Phe Met Arg Pro Val Gln Thr Thr Gln Glu Glu Asp Gly
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Cys Ser Cys Arg Phe Pro Glu Glu Glu Glu Gly Gly Cys Glu
 35 40 45

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Leu Arg Val Lys Phe Ser Arg Ser Ala Asp Ala Pro Ala Tyr Gln Gln
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Gly Gln Asn Gln Leu Tyr Asn Glu Leu Asn Leu Gly Arg Arg Glu Glu
 20 25 30

Tyr Asp Val Leu Asp Lys Arg Arg Gly Arg Asp Pro Glu Met Gly Gly
 35 40 45

Lys Pro Arg Arg Lys Asn Pro Gln Glu Gly Leu Tyr Asn Glu Leu Gln
 50 55 60

Lys Asp Lys Met Ala Glu Ala Tyr Ser Glu Ile Gly Met Lys Gly Glu
 65 70 75 80

Arg Arg Arg Gly Lys Gly His Asp Gly Leu Tyr Gln Gly Leu Ser Thr
 85 90 95

Ala Thr Lys Asp Thr Tyr Asp Ala Leu His Met Gln Ala Leu Pro Pro
 100 105 110

Arg

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Met Asp Trp Thr Trp Arg Ile Leu Phe Leu Val Ala Ala Ala Thr Gly
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Ala His Ser

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Met Ala Leu Pro Val Thr Ala Leu Leu Leu Pro Leu Ala Leu Leu Leu
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His Ala Ala Arg Pro Gly Ser
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Gly Asp Ser Val Ser Ser Asn Ser Ala Thr
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Thr Tyr Tyr Arg Ser Lys Trp Tyr Asn
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Ala Arg Gly Met Met Thr Tyr Tyr Tyr Gly Met Asp Val
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Ser Gly Ile Asn Val Gly Pro Tyr Arg
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Tyr Lys Ser Asp Ser Asp Lys
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Met Ile Trp His Ser Ser Ala Ala Val
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Ser Gly Ile Asn Val Gly Pro Arg
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Gly Tyr Thr Phe Thr Gly Asn Tyr
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Ile Asn Pro Thr Lys Gly Trp Thr
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Ala Arg Trp His His Gly Thr Trp Ile Phe Asp Tyr
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Ser Ser Asn Ile Gly Ser Asn Tyr
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Asn Asp Asn
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Ser Thr Tyr Asp Arg Arg Thr Phe Ser Val
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Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
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Ser Ser Ala Asp Asp Ala Lys Lys Asp Ala Ala Lys Lys Asp Asp Ala
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Lys Lys Asp Asp Ala Lys Lys Asp Gly
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<210> 28
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 <213> Homo sapiens

<400> 28

Met Phe His Val Ser Phe Arg Tyr Ile Phe Gly Leu Pro Pro Leu Ile
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Leu Val Leu Leu Pro Val Ala Ser Ser Asp Cys Asp Ile Glu Gly Lys
 20 25 30

Asp Gly Lys Gln Tyr Glu Ser Val Leu Met Val Ser Ile Asp Gln Leu
 35 40 45

Leu Asp Ser Met Lys Glu Ile Gly Ser Asn Cys Leu Asn Asn Glu Phe
 50 55 60

Asn Phe Phe Lys Arg His Ile Cys Asp Ala Asn Lys Glu Gly Met Phe
 65 70 75 80

Leu Phe Arg Ala Ala Arg Lys Leu Arg Gln Phe Leu Lys Met Asn Ser

85

90

95

Thr Gly Asp Phe Asp Leu His Leu Leu Lys Val Ser Glu Gly Thr Thr
 100 105 110

Ile Leu Leu Asn Cys Thr Gly Gln Val Lys Gly Arg Lys Pro Ala Ala
 115 120 125

Leu Gly Glu Ala Gln Pro Thr Lys Ser Leu Glu Glu Asn Lys Ser Leu
 130 135 140

Lys Glu Gln Lys Lys Leu Asn Asp Leu Cys Phe Leu Lys Arg Leu Leu
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Gln Glu Ile Lys Thr Cys Trp Asn Lys Ile Leu Met Gly Thr Lys Glu
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His

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<213> Homo sapiens

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Met Ala Leu Leu Leu Ala Leu Ser Leu Leu Val Leu Trp Thr Ser Pro
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Ala Pro Thr Leu Ser Gly Thr Asn Asp Ala Glu Asp Cys Cys Leu Ser
 20 25 30

Val Thr Gln Lys Pro Ile Pro Gly Tyr Ile Val Arg Asn Phe His Tyr
 35 40 45

Leu Leu Ile Lys Asp Gly Cys Arg Val Pro Ala Val Val Phe Thr Thr
 50 55 60

Leu Arg Gly Arg Gln Leu Cys Ala Pro Pro Asp Gln Pro Trp Val Glu
 65 70 75 80

Arg Ile Ile Gln Arg Leu Gln Arg Thr Ser Ala Lys Met Lys Arg Arg
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Ser Ser

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 ctaatggatc gcatcgatca attattggac agcatgaaag aaattggtag caattgcctg 180
 aataatgaat ttaacttttt taaaagacat atctgtgatg ctaataagga aggtatgttt 240
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294

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<220>

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Asp Xaa Glu Xaa Asn Pro Gly Pro

1 5

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<220>

<223> F2A_aa

<400> 33

Gly Ser Gly Val Lys Gln Thr Leu Asn Phe Asp Leu Leu Lys Leu Ala

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Gly Asp Val Glu Ser Asn Pro Gly Pro

20 25