

Anti-PD-L1 3G10 VH

V segment: 1-18
D segment: undetermined
J segment: JH6b

```

      Q V Q L V Q S G A E V K K P G A S V
1   CAG GTT CAG CTG GTG CAG TCT GGA GCT GAG GTG AAG AAG CCT GGG GCC TCA GTG

                                CDR1
                                ~~~~~
      K V S C K A S G Y T F T D Y G F S W
55  AAG GTC TCC TGC AAG GCT TCT GGT TAC ACC TTT ACC GAC TAT GGT TTC AGC TGG

                                CDR2
                                ~~~~~
      V R Q A P G Q G L E W M G W I T A Y
109 GTG CGA CAG GCC CCT GGA CAA GGG CTT GAG TGG ATG GGA TGG ATC ACC GCT TAC

                                CDR2
                                ~~~~~
      N G N T N Y A Q K L Q G R V T M T T
163 AAT GGT AAC ACA AAC TAT GCA CAG AAG CTC CAG GGC AGA GTC ACC ATG ACC ACA

      D T S T S T V Y M E L R S L R S D D
217 GAC ACA TCC ACG AGC ACA GTC TAC ATG GAG CTG AGG AGC CTG AGA TCT GAC GAC

                                CDR3
                                ~~~~~
      T A V Y Y C A R D Y F Y G M D V W G
271 ACG GCC GTG TAT TAC TGT GCG AGA GAC TAC TTC TAC GGT ATG GAC GTC TGG GGC

      Q G T T V T V S S
325 CAA GGG ACC ACG GTC ACC GTC TCC TCA

```

Figure 1a

Anti-PD-L1 3G10 VK

V segment: L6
J segment: JK1

```

      E I V L T Q S P A T L S L S P G E R
1  GAA ATT GTG TTG ACA CAG TCT CCA GCC ACC CTG TCT TTG TCT CCA GGG GAA AGA

                                CDR1
                                ~~~~~
      A T L S C R A S Q S V S S Y L V W Y
55  GCC ACC CTC TCC TGC AGG GCC AGT CAG AGT GTT AGC AGC TAC TTA GTC TGG TAC

                                CDR2
                                ~~~~~
      Q Q K P G Q A P R L L I Y D A S N R
109 CAA CAG AAA CCT GGC CAG GCT CCC AGG CTC CTC ATC TAT GAT GCA TCC AAC AGG

      CDR2
      ~~~~~
      A T G I P A R F S G S G S G T D F T
163  GCC ACT GGC ATC CCA GCC AGG TTC AGT GGC AGT GGG TCT GGG ACA GAC TTC ACT

                                CDR3
                                ~~~~~
      L T I S S L E P E D F A V Y Y C Q Q
217  CTC ACC ATC AGC AGC CTA GAG CCT GAA GAT TTT GCA GTT TAT TAC TGT CAG CAG

      CDR3
      ~~~~~
      R S N W P R T F G Q G T K V E I K
271  CGT AGC AAC TGG CCT CGG ACG TTC GGC CAA GGG ACC AAG GTG GAA ATC AAA

```

Figure 1b

Anti-PD-L1 12A4 VH

V segment: 1-69
D segment: 3-10
J segment: JH6b

```

1   Q V Q L V Q S G A E V K K P G S S V
   CAG GTC CAG CTG GTG CAG TCT GGG GCT GAG GTG AAG AAG CCT GGG TCC TCG GTG

                                     CDR1
                                     ~~~~~
55  K V S C K T S G D T F S T Y A I S W
   AAG GTC TCC TGC AAG ACT TCT GGA GAC ACC TTC AGC ACC TAT GCT ATC AGC TGG

                                     CDR2
                                     ~~~~~
109 V R Q A P G Q G L E W M G G I I P I
   GTG CGA CAG GCC CCT GGA CAA GGG CTT GAG TGG ATG GGA GGG ATC ATC CCT ATA

                                     CDR2
                                     ~~~~~
163 F G K A H Y A Q K F Q G R V T I T A
   TTT GGT AAA GCA CAC TAC GCA CAG AAG TTC CAG GGC AGA GTC ACG ATT ACC GCG

217 D E S T S T A Y M E L S S L R S E D
   GAC GAA TCC ACG AGC ACA GCC TAC ATG GAG CTG AGC AGC CTG AGA TCT GAG GAC

                                     CDR3
                                     ~~~~~
271 T A V Y F C A R K F H F V S G S P F
   ACG GCC GTG TAT TTT TGT GCG AGA AAG TTT CAC TTT GTT TCG GGG AGC CCC TTC

                                     CDR3
                                     ~~~~~
325 G M D V W G Q G T T V T V S S
   GGT ATG GAC GTC TGG GGC CAA GGG ACC ACG GTC ACC GTC TCC TCA

```

Figure 2a

3/61

Anti-PD-L1 12A4 VK

V segment: L6
J segment: JK1

```

      E I V L T Q S P A T L S L S P G E R
1  GAA ATT GTG TTG ACA CAG TCT CCA GCC ACC CTG TCT TTG TCT CCA GGG GAA AGA

                                CDR1
                                ~~~~~
      A T L S C R A S Q S V S S Y L A W Y
55  GCC ACC CTC TCC TGC AGG GCC AGT CAG AGT GTT AGC AGC TAC TTA GCC TGG TAC

                                CDR2
                                ~~~~~
      Q Q K P G Q A P R L L I Y D A S N R
109 CAA CAG AAA CCT GGC CAG GCT CCC AGG CTC CTC ATC TAT GAT GCA TCC AAC AGG

      CDR2
      ~~~~~
      A T G I P A R F S G S G S G T D F T
163  GCC ACT GGC ATC CCA GCC AGG TTC AGT GGC AGT GGG TCT GGG ACA GAC TTC ACT

                                CDR3
                                ~~~~~
      L T I S S L E P E D F A V Y Y C Q Q
217 CTC ACC ATC AGC AGC CTA GAG CCT GAA GAT TTT GCA GTT TAT TAC TGT CAG CAG

      CDR3
      ~~~~~
      R S N W P T F G Q G T K V E I K
271 CGT AGC AAC TGG CCG ACG TTC GGC CAA GGG ACC AAG GTG GAA ATC AAA

```

Figure 2b

Anti-PD-L1 10A5 VH

V segment: 1-3
D segment: 5-5
J segment: JH4b

```

      Q  V  Q  L  V  Q  S  G  A  E  V  K  K  P  G  A  S  V
1  CAG GTC CAA CTT GTG CAG TCT GGG GCT GAG GTG AAG AAG CCT GGG GCC TCA GTG

                                     CDR1
                                     ~~~~~~
      K  V  S  C  K  A  S  G  Y  T  F  T  S  Y  D  V  H  W
55 AAG GTT TCC TGC AAG GCT TCT GGA TAC ACC TTC ACT AGC TAT GAT GTA CAT TGG

                                     CDR2
                                     ~~~~~~
      V  R  Q  A  P  G  Q  R  L  E  W  M  G  W  L  H  A  D
109 GTG CGC CAG GCC CCC GGA CAA AGG CTT GAG TGG ATG GGA TGG CTC CAC GCT GAC

      CDR2
      ~~~~~~
      T  G  I  T  K  F  S  Q  K  F  Q  G  R  V  T  I  T  R
163 ACT GGT ATC ACA AAA TTT TCA CAG AAG TTC CAG GGC AGA GTC ACC ATT ACC AGG

      D  T  S  A  S  T  A  Y  M  E  L  S  S  L  R  S  E  D
217 GAC ACA TCC GCG AGC ACA GCC TAC ATG GAG CTG AGC AGC CTG AGA TCT GAA GAC

                                     CDR3
                                     ~~~~~~
      T  A  V  Y  Y  C  A  R  E  R  I  Q  L  W  F  D  Y  W
271 ACG GCT GTG TAT TAC TGT GCG AGG GAG AGG ATA CAG CTA TGG TTT GAC TAC TGG

      G  Q  G  T  L  V  T  V  S  S
325 GGC CAG GGA ACC CTG GTC ACC GTC TCC TCA

```

Figure 3a

Anti-PD-L1 10A5 VK

V segment: L15

J segment: JK2

```

      D I Q M T Q S P S S L S A S V G D R
1 GAC ATC CAG ATG ACC CAG TCT CCA TCC TCA CTG TCT GCA TCT GTA GGA GAC AGA

                        CDR1
                        ~~~~~
      V T I T C R A S Q G I S S W L A W Y
55 GTC ACC ATC ACT TGT CGG GCG AGT CAG GGT ATT AGC AGC TGG TTA GCC TGG TAT

                        CDR2
                        ~~~~~
      Q Q K P E K A P K S L I Y A A S S L
109 CAG CAG AAA CCA GAG AAA GCC CCT AAG TCC CTG ATC TAT GCT GCA TCC AGT TTG

      CDR2
      ~~~~~
      Q S G V P S R F S G S G S G T D F T
163 CAA AGT GGG GTC CCA TCA AGG TTC AGC GGC AGT GGA TCT GGG ACA GAT TTC ACT

                        CDR3
                        ~~~~~
      L T I S S L Q P E D F A T Y Y C Q Q
217 CTC ACC ATC AGC AGC CTG CAG CCT GAA GAT TTT GCA ACT TAT TAC TGC CAA CAG

      CDR3
      ~~~~~
      Y N S Y P Y T F G Q G T K L E I K
271 TAT AAT AGT TAC CCG TAC ACT TTT GGC CAG GGG ACC AAG CTG GAG ATC AAA
```

Figure 3b

6/61

Anti-PD-L1 5F8 VH

V segment: 1-69
D segment: 6-13
J segment: JH4b

```

1      Q V Q L V Q S G A E V K K P G S S V
      CAG GTC CAG CTG GTG CAG TCT GGG GCT GAG GTG AAG AAG CCT GGG TCC TCG GTG

                                CDR1
                                ~~~~~
55     K V S C K V S G G I F S T Y A I N W
      AAG GTC TCC TGC AAG GTT TCT GGA GGC ATC TTC AGC ACC TAT GCT ATC AAC TGG

                                CDR2
                                ~~~~~
109    V R Q A P G Q G L E W M G G I I P I
      GTG CGA CAG GCC CCT GGA CAA GGG CTT GAG TGG ATG GGA GGG ATC ATC CCT ATC

                                CDR2
                                ~~~~~
163    F G T A N H A Q K F Q G R V T I T A
      TTT GGT ACA GCA AAC CAC GCA CAG AAG TTC CAG GGC AGA GTC ACG ATT ACC GCG

217    D E S T S T A Y M E L S S L R S E D
      GAC GAA TCC ACG AGC ACA GCC TAC ATG GAG CTG AGC AGC CTG AGA TCT GAG GAC

                                CDR3
                                ~~~~~
271    T A V Y Y C A R D Q G I A A A L F D
      ACG GCC GTG TAT TAC TGT GCG AGA GAT CAG GGT ATA GCA GCA GCC CTT TTT GAC

                                CDR3
                                ~~~
325    Y W G Q G T L V T V S S
      TAC TGG GGC CAG GGA ACC CTG GTC ACC GTC TCC TCA

```

Figure 4a

7/61

Anti-PD-L1 5F8 VK1

V segment: A27

J segment: JK1

```

      E I V L T Q S P G T L S L S P G E R
1  GAA ATT GTG TTG ACG CAG TCT CCA GGC ACC CTG TCT TTG TCT CCA GGG GAA AGA

                                CDR1
                                ~~~~~
      A T L S C R A S Q S V S S S Y L A W
55  GCC ACC CTC TCC TGC AGG GCC AGT CAG AGT GTT AGC AGC AGC TAC TTA GCC TGG

                                CDR2
                                ~~~~~
      Y Q Q K P G Q A P R L L I Y G A S S
109 TAC CAG CAG AAA CCT GGC CAG GCT CCC AGG CTC CTC ATC TAT GGT GCA TCC AGC

      CDR2
      ~~~~~
      R A T G I P D R F S G S G S G T D F
163  AGG GCC ACT GGC ATC CCA GAC AGG TTC AGT GGC AGT GGG TCT GGG ACA GAC TTC

                                CDR3
                                ~~~~~
      T L T I S R L E P E D F A V Y Y C Q
217  ACT CTC ACC ATC AGC AGA CTG GAG CCT GAA GAT TTT GCA GTG TAT TAC TGT CAG

      CDR3
      ~~~~~
      Q Y G S S P W T F G Q G T K V E I K
271  CAG TAT GGT AGC TCA CCG TGG ACG TTC GGC CAA GGG ACC AAG GTG GAA ATC AAA

```

Figure 4b

8/61

Anti-PD-L1 10H10 VH

V segment: 3-9
D segment: 4-17
J segment: JH4b

```

1      E V Q L V E S G G G L V Q P G R S L
      GAA GTG CAG CTG GTG GAG TCT GGG GGA GGC TTG GTA CAG CCT GGC AGG TCC CTG

                                CDR1
                                ~~~~~
55     R L S C A V S G F T F D D Y V V H W
      AGA CTC TCC TGT GCA GTC TCT GGA TTC ACC TTT GAT GAT TAT GTC GTG CAC TGG

                                CDR2
                                ~~~~~
109    V R Q A P G K G L E W V S G I S G N
      GTC CGG CAA GCT CCA GGG AAG GGC CTG GAG TGG GTC TCA GGT ATT AGT GGG AAT

                                CDR2
                                ~~~~~
163    S G N I G Y A D S V K G R F T I S R
      AGT GGT AAC ATA GGC TAT GCG GAC TCT GTG AAG GGC CGA TTC ACC ATC TCC AGA

217    D N A K N S L Y L Q M N S L R A E D
      GAC AAC GCC AAG AAC TCC CTG TAT CTG CAA ATG AAC AGT CTG AGA GCT GAG GAC

                                CDR3
                                ~~~~~
271    T A L Y Y C A V P F D Y W G Q G T L
      ACG GCC TTG TAT TAC TGT GCG GTC CCC TTT GAC TAC TGG GGC CAG GGA ACC CTG

325    V T V S S
      GTC ACC GTC TCC TCA

```

Figure 5a

Anti-PD-L1 10H10 VK

V segment: L15

J segment: JK2

```

1      D I Q M T Q S P S S L S A S V G D R
      GAC ATC CAG ATG ACC CAG TCT CCA TCC TCA CTG TCT GCA TCT GTA GGA GAC AGA

                                CDR1
                                ~~~~~
55     V T I T C R A S Q G I S S W L A W Y
      GTC ACC ATC ACT TGT CGG GCG AGT CAG GGT ATT AGC AGC TGG TTA GCC TGG TAT

                                CDR2
                                ~~~~~
109    Q Q K P E K A P K S L I Y A A S S L
      CAG CAG AAA CCA GAG AAA GCC CCT AAG TCC CTG ATC TAT GCT GCA TCC AGT TTG

      CDR2
      ~~~~~
163    Q S G V P S R F S G S G S G T D E T
      CAA AGT GGG GTC CCA TCA AGG TTC AGC GGC AGT GGA TCT GGG ACA GAT TTC ACT

                                CDR3
                                ~~~~~
217    L T I S S L Q P E D F A T Y Y C Q Q
      CTC ACC ATC AGC AGC CTG CAG CCT GAA GAT TTT GCA ACT TAT TAC TGC CAA CAG

      CDR3
      ~~~~~
271    Y N S Y P Y T F G Q G T K L E I K
      TAT AAT AGT TAC CCG TAC ACT TTT GGC CAG GGG ACC AAG CTG GAG ATC AAA

```

Figure 5b

10/61

Anti-PD-L1 1B12 VH

V segment: 1-69
D segment: 3-10
J segment: JH6b

```

1      Q V Q L V Q S G A E V K K P G S S V
      CAG GTC CAG CTG GTG CAG ICT GGG GCT GAG GTG AAG AAG CCT GGG TCC TCG GTG

                                CDR1
                                ~~~~~
55     K V S C K T S G D T F S S Y A I S W
      AAG GTC TCC TGC AAG ACT TCT GGA GAC ACC TTC AGC AGC TAT GCT ATC AGC TGG

                                CDR2
                                ~~~~~
109    V R Q A P G Q G L E W M G G I I P I
      GTG CGA CAG GCC CCT GGA CAA GGG CTT GAG TGG ATG GGA GGG ATC ATC CCT ATC

                                CDR2
                                ~~~~~
163    F G R A H Y A Q K F Q G R V T I T A
      TTT GGT AGA GCA CAC TAC GCA CAG AAG TTC CAG GGC AGA GTC ACG ATT ACC GCG

217    D E S T S T A Y M E L S S L R S E D
      GAC GAA TCC ACG AGC ACA GCC TAC ATG GAG CTG AGC AGC CTG AGA TCT GAG GAC

                                CDR3
                                ~~~~~
271    T A V Y F C A R K F H F V S G S P F
      ACG GCC GTG TAT TTT TGT GCG AGA AAG TTT CAC TTT GTT TCG GGG AGC CCC TTC

                                CDR3
                                ~~~~~
325    G M D V W G Q G T T V T V S S
      GET ATG GAC GTC TGG GGC CAA GGG ACC ACG GTC ACC GTC TCC TCA

```

Figure 6a

11/61

Anti-PD-L1 1B12 VK

V segment: L6
J segment: JK1

```

      E I V L T Q S P A T L S J S P G E R
1    GAA ATT GTG TTG ACA CAG TCT CCA GCC ACC CTG TCT TTG TCT CCA GGG GAA AGA

                                CDR1
                                ~~~~~
      A T L S C R A S Q S V S S Y L A W Y
55   GCC ACC CTC TCC TGC AGG GCC AGT CAG AGT GTT AGC AGC TAC TTA GCC TGG TAC

                                CDR2
                                ~~~~~
      Q Q K P G Q A P R L L I Y D A S N R
109  CAA CAG AAA CCT GGC CAG GCT CCC AGG CTC CTC ATC TAT GAT GCA TCC AAC AGG

      CDR2
      ~~~~~
      A T G I P A R F S G S G S G T D F T
163  GCC ACT GGC ATC CCA GCC AGG TTC AGT GGC AGT GGG TCT GGG ACA GAC TTC ACT

                                CDR3
                                ~~~~~
      L T I S S L E P E D F A V Y Y C Q Q
217  CTC ACC ATC AGC AGC CTA GAG CCT GAA GAT TTT GCA GTT TAT TAC TGT CAG CAG

      CDR3
      ~~~~~
      R S N W P T F G Q G T K V E I K
271  CGT AGC AAC TGG CCG ACG TTC GGC CAA GGG ACC AAG GTG GAA ATC AAA

```

Figure 6b

12/61

Anti-PD-L1 7H1 VH

V segment: 1-69
D segment: 3-10
J segment: JH6b

```

1      Q V Q L V Q S G A E V K K P G S S V
      CAG GTC CAG CTG GTG CAG TCT GGG GCT GAG GTG AAG AAG CCT GGG TCC TCG GTG

                                CDR1
                                ~~~~~
55     K V S C K T S G G T F S S Y A I S W
      AAG GTC TCC TGC AAG ACT TCT GGA GGC ACC TTC AGC AGC TAT GCT ATC AGC TGG

                                CDR2
                                ~~~~~
109    V R Q A P G Q G L E W M G G I I P I
      GTG CGA CAG GCC CCT GGA CAA GGG CTT GAG TGG ATG GGA GGG ATC ATC CCT ATC

                                CDR2
                                ~~~~~
163    F G K A H Y A Q K F Q G R V T I T A
      TTT GGT AAA GCA CAC TAC GCA CAG AAG TTC CAG GGC AGA GTC ACG ATT ACC GCG

217    D E S T T T A Y M E L S S L R S E D
      GAC GAA TCC ACG ACC ACA GCC TAC ATG GAG CTG AGC AGC CTG AGA TCT GAG GAC

                                CDR3
                                ~~~~~
271    T A V Y Y C A R K Y D Y V S G S P F
      ACG GCC GTG TAT TAC TGT GCG AGA AAG TAT GAC TAT GTT TCG GGG AGC CCC TTC

                                CDR3
                                ~~~~~
325    G M D V W G Q G T T V T V S S
      GGT ATG GAC GTC TGG GGC CAA GGG ACC ACG GTC ACC GTC TCC TCA

```

Figure 7a

Anti-PD-L1 7H1 VK

V segment: L6
J segment: JK1

```

1      E I V L T Q S P A T L S L S P G E R
      GAA ATT GTG TTG ACA CAG TCT CCA GCC ACC CTG TCT TTG TCT CCA GGG GAA AGA

                                CDR1
                                ~~~~~
55     A T L S C R A S Q S V S S Y L A W Y
      GCC ACC CTC TCC TGC AGG GCC AGT CAG AGT GTT AGC AGC TAC TTA GCC TGG TAC

                                CDR2
                                ~~~~~
109    Q Q K P G Q A P R L L I Y D A S N R
      CAA CAG AAA CCT GGC CAG GCT CCC AGG CTC CTC ATC TAT GAT GCA TCC AAC AGG

      CDR2
      ~~~~~
163    A T G I P A R F S G S G S G T D F T
      GCC ACT GGC ATC CCA GCC AGG TTC AGT GGC AGT GGG TCT GGG ACA GAC TTC ACT

                                CDR3
                                ~~~~~
217    L T I S S L E P E D F A V Y Y C Q Q
      CTC ACC ATC AGC AGC CTA GAG CCT GAA GAT TTT GCA GTT TAT TAC TGT CAG CAG

      CDR3
      ~~~~~
271    R S N W P T F G Q G T K V E I K
      CGT AGC AAC TGG CCG ACG TTC GGC CAA GGG ACC AAG GTG GAA ATC AAA

```

Figure 7b

14/61

Anti-PD-L1 11E6 VH

V segment: 1-69
D segment: 6-19
J segment: JH6c

```

1      Q V Q L V Q S G A E V K K P G S S V
      CAG GTC CAG CTG GTG CAG TCT GGG GCT GAG GTG AAG AAG CCT GGG TCC TCG GTG

                                CDR1
                                ~~~~~
55     K V S C K A S G G T F S S Y A I N W
      AAG GTC TCC TGC AAG GCT TCT GGA GGC ACC TTC AGC AGC TAT GCT ATC AAC TGG

                                CDR2
                                ~~~~~
109    V R Q A P G Q G L E W M G G I I P I
      GTG CGA CAG GCC CCT GGA CAA GGG CTT GAG TGG ATG GGA GGG ATC ATC CCT ATC

                                CDR2
                                ~~~~~
163    F G S A N Y A Q K F Q D R V T I T A
      TTT GGT TCA GCA AAC TAC SCA CAG AAG TTC CAG GAC AGA GTC ACG ATT ACC GCG

217    D E S T S A A Y M E L S S L R S E D
      GAC GAA TCC ACG AGC GCA GCC TAC ATG GAG CTG AGC AGC CTG AGA TCT GAG GAC

                                CDR3
                                ~~~~~
271    T A V Y Y C A R D S S G W S R Y Y M
      ACG GCC GTA TAT TAC TGT GCG AGA GAC AGC AGT GGC TGG TCT CGG TAC TAT ATG

                                CDR3
                                ~~~~~
325    D V W G Q G T T V T V S S
      GAC GTC TGG GGC CAA GGG ACC ACG GTC ACC GTC TCC TCA

```

Figure 8a

15/61

Anti-PD-L1 11E6 VK1

V segment: A27

J segment: JK4

```

      E I V L T Q S P G T L S L S P G E R
1    GAA ATT GTG TTG ACG CAG TCT CCA GGC ACC CTG TCT TTG TCT CCA GGG GAA AGA

                                CDR1
                                ~~~~~
      A T L S C R A S Q S V S S S Y L A W
55   GCC ACC CTC TCC TGC AGG GCC AGT CAG AGT GTT AGC AGC AGC TAC TTA GCC TGG

                                CDR2
                                ~~~~~
      Y Q Q K P G Q A P R L L I Y G A S S
109  TAC CAG CAG AAA CCT GGC CAG GCT CCC AGG CTC CTC ATC TAT GGT GCA TCC AGC

      CDR2
      ~~~~~
      R A T G I P D R F S G S G S G T D F
163  AGG GCC ACT GGC ATC CCA GAC AGG TTC AGT GGC AGT GGG TCT GGG ACA GAC TTC

                                CDR3
                                ~~~~~
      T L T I S R L E P E D F A V Y Y C Q
217  ACT CTC ACC ATC AGC AGA CTG GAG CCT GAA GAT TTT GCA GTG TAT TAC TGT CAG

      CDR3
      ~~~~~
      Q Y G S S P F G G G T K V E I K
271  CAG TAT GGT AGC TCA CCT TTC GGC GGA GGG ACC AAG GTG GAG ATC AAA

```

Figure 8b

16/61

Anti-PD-L1 12B7 VH

V segment: 1-69
D segment: 3-10
J segment: JH6b

```

1      Q V Q L V Q S G A E V K E P G S S V
      CAG GTC CAG CTG GTG CAG TCT GGG GCT GAG GTG AAG GAG CCT GGG TCC TCG GTG

                                CDR1
                                ~~~~~
55     K V S C K A S G G T F N S Y A I S W
      AAG GTC TCC TGC AAG GCT TCT GGA GGC ACC TTC AAC AGC TAT GCT ATC AGC TGG

                                CDR2
                                ~~~~~
109    V R Q A P G Q G L E W M G G I I P L
      GTG CGA CAG GCQ CCT GGA CAA GGG CTT GAG TGG ATG GGA GGG ATC ATC CCT CTT

                                CDR2
                                ~~~~~
163    F G I A H Y A Q K F Q G R V T I T A
      TTC GGT ATA GCA CAC TAC GCA CAG AAG TTC CAG GGC AGA GTC ACG ATT ACC GCG

217    D E S T N T A Y M D L S S L R S E D
      GAC GAA TCC ACG AAC ACA GCC TAT ATG GAC CTG AGC AGC CTG AGA TCT GAG GAC

                                CDR3
                                ~~~~~
271    T A V Y Y C A R K Y S Y V S G S P F
      ACG GCC GTA TAT TAT TGT GCG AGA AAG TAT TCC TAT GTT TCG GGG AGC CCC TTC

                                CDR3
                                ~~~~~
325    G M D V W G Q G T T V T V S S
      GGT ATG GAC GTC TGG GGC CAA GGG ACC ACG GTC ACC GTC TCC TCA

```

Figure 9a

17/61

Anti-PD-L1 12B7 VK

V segment: L6
J segment: JK5

```

      E I V L T Q S P A T L S L S P G E R
1    GAA ATT GTG TTG ACA CAG TCT CCA GCC ACC CTG TCT TTG TCT CCA GGG GAA AGA

                                CDR1
                                ~~~~~
      A T L S C R A S Q S V S S Y L A W Y
55   GCC ACC CTC TCC TGC AGG GCC AGT CAG AGT GTT AGC AGC TAC TTA GCC TGG TAC

                                CDR2
                                ~~~~~
      Q Q K P G Q A P R L L I Y D A S N R
109  CAA CAG AAA CCT GGC CAG GCT CCC AGG CTC CTC ATC TAT GAT GCA TCC AAC AGG

      CDR2
      ~~~~~
      A T G I P A R F S G S G S G T D F T
163  GCC ACT GGC ATC CCA GCC AGG TTC AGT GGC AGT GGS TCT GGS ACA GAC TTC ACT

                                CDR3
                                ~~~~~
      L T I S S L E P E D F A V Y Y C Q Q
217  CTC ACC ATC AGC AGC CTA GAG CCT GAA GAT TTT GCA GTT TAT TAC TGT CAG CAG

      CDR3
      ~~~~~
      R S N W P T F G Q G T R L E I K
271  CGT AGC AAC TGG CCC ACC TTC GGC CAA GGS ACA CGA CTG GAG ATT AAA

```

Figure 9b

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Anti-PD-L1 13G4 VH

V segment: 3-9
D segment: 3-9
J segment: JH4b

```

1      E V Q L V E S G G G L V Q P G R S L
      GAA GTG CAG TTG GTG GAG TCT GGG GGA GGC TTG GTA CAG CCT GGC AGG TCC CTG

                                CDR1
                                ~~~~~
55     R L S C A A S G I T F D D Y G M H W
      AGA CTC TCC TGT GCA GCC TCT GGA ATC ACC TTT GAT GAT TAT GGC ATG CAC TGG

                                CDR2
                                ~~~~~
109    V R Q A P G K G L E W V S G I S W N
      GTC CGG CAA GCT CCA GGG AAG GGC CTG GAG TGG GTC TCA GGT ATT AGC TGG AAT

                                CDR2
                                ~~~~~
163    R G R I E Y A D S V K G R F T I S R
      AGA GGT AGA ATA GAG TAT GCG GAC TCT GTG AAG GGC CGA TTC ACC ATC TCC AGA

217    D N A K N S L Y L Q M N S L R A E D
      GAC AAC GCC AAG AAC TCC CTG TAT CTG CAA ATG AAC AGT CTG AGA GCT GAG GAC

                                CDR3
                                ~~~~~
271    T A L Y Y C A K G R F R Y F D W F L
      ACG GCC TTG TAT TAC TGT GCA AAA GGG CGG TTC CGA TAT TTT GAC TGG TTT CTT

                                CDR3
                                ~~~~~
325    D Y W G Q G T L V T V S S
      GAC TAC TGG GGC CAG GGA ACC CTG GTC ACC GTC TCC TCA

```

Figure 10a

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Anti-PD-L1 13G4 VK

V segment: L18

J segment: JK3

```

1      A I Q L T Q S P S S L S A S V G D R
GCC ATC CAG TTG ACC CAG TCT CCA TCC TCC CTG TCT GCA TCT GTA GGA GAC AGA

                                CDR1
                                ~~~~~
55     V T I T C R A S Q G I S S A L A W Y
GTC ACC ATC ACT TGC CGG GCA AGT CAG GGC ATT AGC AGT GCT TTA GCC TGG TAT

                                CDR2
                                ~~~~~
109    Q Q K P G K A P K L L I Y D A S S L
CAG CAG AAA CCA GGG AAA GCT CCT AAG CTC CTG ATC TAT GAT GCC TCC AGT TTG

                                CDR2
                                ~~~~~
163    E S G V P S R F S G S G S G T D F T
GAA AGT GGG GTC CCA TCA AGG TTC AGC GGC AGT GGA TCT GGG ACA GAT TTC ACT

                                CDR3
                                ~~~~~
217    L T I S S L Q P E D F A T Y Y C Q Q
CTC ACC ATC AGC AGC CTG CAG CCT GAA GAT TTT GCA ACT TAT TAC TGT CAA CAG

                                CDR3
                                ~~~~~
271    F N S Y P F T F G P G T K V D I K
TTT AAT AGT TAC CCA TTC ACT TTC GGC CCT GGG ACC AAA GTG GAT ATC AAA

```

Figure 10b

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Anti-PD-L1 3G10 VH region

```

1-18 germline:  Q V Q L V Q S G A E V K K P G A S V K V S C K A S G Y T F T S Y G I S W V R Q
3G10 VH:       - - - - - - - - - - - - - - - - D - - F - - - -

```

1-18 germline: A P G Q G L E W M G W I S A Y N G N T N Y A Q K L Q G R V T M T T D T S T S T
3G10 VH: - - - - - - - - - - T -

1-18 germline: A Y M E L R S L R S D D T A V Y Y C A R _____
3G10 VH: V - - - - - - - - - - - - - - - D Y F Y G M D V W G Q G T T V T V S S
(JH6b)

CDR3

Figure 11

Anti-PD-L1 10A5 VH region

1-3 germline 10A5 VH	Q V Q L V Q S G A E V K K P G A S V K V S C K A S G Y T F T S Y A M H W	CDR1
1-3 germline 10A5 VH	V R Q A P G Q R L E W M G W I N A G N G N T K Y S Q K F Q G R V T I T R	CDR2
1-3 germline JH4b germline 10A5 VH	D T S A S T A Y M E L S S L R S E D T A V Y Y C A R	CDR3
JH4b germline 10A5 VH	G Q G T L V T V S S	F D Y W
	(JH4b)	

Figure 13

Anti-PD-L1 5F8 VH region

1-69 germline
5F8 VH

1-69 germline
5F8 VH

1-69 germline	D E S T S T A Y M E L S S L R S E D T A V Y C A R	_____CDR3_____
JH4b germline	- - - - -	- - - - -
5F8 VH	- - - - -	- - - - -D Q G I A A A L - - - F D

JH4b germline
5F8 VH

Figure 14

[illegible]

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Anti-PD-L1 7H1 VH region

1-69 germline Q V Q L V Q S G A E V K K P G S S V K V S C K A S G G T F S S Y A I S W
7H1 VH - - - - - CDR1

1-69 germline V R Q A P G Q G L E W M G G I I P I F G T A N Y A Q K F Q G R V T I T A
7H1 VH - - - - - CDR2

1-69 germline D E S T S T A Y M E L S S L R S E D T A V Y Y C A R
JH6b germline - - - - - CDR3
7H1 VH - - - - - K Y D Y V S G S P F

JH6b germline G M D V W G Q G T V T V S S
7H1 VH - - - - - (JH6b)

Figure 17

Anti-PD-L1 11E6 VH region

1-69 germline Q V Q L V Q S G A E V K K P G S S V K V S C K A S G G T F S S Y A I S W
 11E6 VH - - - - - CDR1 - - - - - N -

1-69 germline V R Q A P G Q G L E W M G G I I P I F G T A N Y A Q K F Q G R V T I T A
 11E6 VH - - - - - CDR2 - - - - - D - - - - -

1-69 germline D E S T S T A Y M E L S S L R S E D T A V Y Y C A R - - - - - CDR3 - - - - -
 JH6c germline - - - - - Y Y M - - - - -
 11E6 VH - - - - - A - - - - - D S S G W S R - - - - -

JH6c germline D V W G Q G T T V T V S S
 11E6 VH - - - - - (JH6c) - - - - -

Figure 18

Anti-PD-L1 12B7 VH region

1-69 germline 12B7 VH	Q V Q L V Q S G A E V K K P G S S V K V S C K A S G G T F S S Y A I S W - - - - - E - - - - - N - - - - -	CDR1
1-69 germline 12B7 VH	V R Q A P G Q G L E W M G G I I P I F G T A N Y A Q K F Q G R V T I T A - - - - - L - - - - - I - - - - - H - - - - -	CDR2
1-69 germline JH6b germline 12B7 VH	D E S T S T A Y M E L S S L R S E D T A V Y Y C A R - - - - - D - - - - - - - - - - K Y S Y V S G S P F	CDR3
JH6b germline 12B7 VH	G M D V W G Q G T T V T V S S - - - - - (JH6b)	

Figure 19

Anti-PD-L1 13G4 VH region

3-9 germline
13G4 VH

EVQLVESGGGLVQPGRSRLRSLSCAASGFTFDYAMHW
 CDR1
 I--G--

3-9 germline
13G4 VH

VRQAPGKGLIEWVSGISWNSSIGYADSVKGRFTISR
 CDR2
 R--R--E--

3-9 germline
13G4 VH

DNAKNSLYLQMNSLRAREDYLYCAK
 CDR3
 GRFRYFDWFL

JH4b germline
13G4 VH

DYWGQGLVTVSS
 (JH4b)

Figure 20

Anti-PD-L1 3G10 VK Region

L6 germline: E I V L T Q S P A T L S L S P G E R A T L S C R A S Q S V S S Y L A
 3G10 VK#1: - - - - - CDR1 - - - - - V

L6 germline: W Y Q Q K P G Q A P R L L I Y D A S N R A T G I P A R F S G S G S G
 3G10 VK#1: - - - - - CDR2 - - - - -

L6 germline: T D F T L T I S S L E P E D F A V Y C Q Q R S N W P
 JK1 germline: - - - - - CDR3 - - - - - W T F G Q G T
 3G10 VK#1: - - - - - R - - - - -

JK1 germline: K V E I K
 3G10 VK#1: - - - - - (JK1)

Figure 21

PD-L1 12A4 VK Region

L6 germline: E I V L T Q S P A T L S L S P G E R A T L S C R A S Q S V S S Y L A W Y
 12A4 VK: - - - - - CDR1 - - - - -

L6 germline: Q Q K P G Q A P R L L I Y D A S N R A T G I P A R F S G S G S G T D F T
 12A4 VK: - - - - - CDR2 - - - - -

L6 germline: L T I S S L E P E D F A V Y C Q Q R S N W P
 JK1 germline: - - - - - CDR3 - - - - -
 12A4 VK: - - - - - T F G Q G T K V E I K - - - - -

Figure 22

Anti-PD-L1 10A5 VK region

L15 germline 10A5 VK	D I Q M T Q S P S S L S A S V G D R V T I T C R A S Q G I S S	CDR1
L15 germline 10A5 VK	W L A W Y Q Q K P E K A P K S L I Y A A S S L Q S G V P S R F	CDR2
L15 germline 10A5 VK	S G S G S G T D F T L T I S S L Q P E D F A T Y Y C Q Y N S	CDR3
L15 germline JK2 germline 10A5 VK	Y P Y T F G Q G T K L E I K	(JK2)

Figure 23

Anti-PD-L1 5F8 VK1 region

A27 germline	E I V L T Q S P G T L S L S P G E R A T L S C R A S Q S V S S S Y L A W
5F8 VK1	-----

A27 germline	Y Q Q K P G Q A P R L L I Y G A S S R A T G I P D R F S G S G S G T D F
5F8 VK1	-----

A27 germline	T L T I S R L E P E D F A V Y C Q Y G S S P
JK1 germline	-----
5F8 VK1	-----
(JK1)	-----

Figure 24

Anti-PD-L1 10H10 VK region

L15 germline	D	I	Q	M	T	Q	S	P	S	S	L	S	A	S	V	G	D	R	V	T	I	T	C	R	A	S	Q	G	I	S
10H10 VK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

I115 germline	<u>W L A W Y Q Q K P E K A P K S L I Y A A S S L Q S</u>	<u>CDR2</u>	G V P S R F
10H10 VK	- - - - -	- - - - -	- - - - -

[illegible][illegible]

Figure 25

Anti-PD-L1 1B12 VK region

L6 germline
1B12 VK

E I V L T Q S P A T L S L S P G E R A T L S C R A S Q S V S S

CDR1

L6 germline
1B12 VK

Y L A W Y Q Q K P G Q A P R L L I Y D A S N R A T G I P A R F

CDR2

L6 germline
1B12 VK

S G S G S G T D F T L T I S S L E P E D F A V Y Y C Q Q R S N

CDR3

L6 germline
JK1 germline
1B12 VK

W P T F G Q G T K V E I K (JK1)

Figure 26

Anti-PD-L1 7H1 VK region

L6 germline
7H1 VK
E I V L T Q S P A T L S L S P G E R A T L S C R A S Q S V S S
CDR1

L6 germline
7H1 VK
Y L A W Y Q Q K P G Q A P R L L I Y D A S N R A T G I P A R F
CDR2

L6 germline
7H1 VK
S G S G S G T D F T L T I S S L E P E D F A V Y Y C Q Q R S N
CDR3

L6 germline
JK1 germline
7H1 VK
W P T F G Q G T K V E I K
(JK1)

Figure 27

Anti-PD-L1 11E6 VK1 region

A27 germline
11E6 VK1

E I V L T Q S P G T L S L S P G E R A T L S C R A S Q S V S S S Y L A W

CDR1

A27 germline
11E6 VK1

Y Q Q K P G Q A P R L L I Y G A S S R A T G I P D R F S G S G S G T D F

CDR2

A27 germline
JK4 germline
11E6 VK1

T L T I S R L E P E D F A V Y C Q Q Y G S S P

CDR3

F G G G T K V E I K (JK4)

Figure 28

Anti-PD-L1 11E6a VK2 region

A27 germline
11E6 VK2

E I V L T Q S P G T L S L S P G E R A T L S C R A S Q S V S S Y L A W

CDR1

A27 germline
11E6 VK2

Y Q Q K P G Q A P R L L I Y G A S S R A T G I P D R F S G S G S G T D F

CDR2

A27 germline
JK4 germline
11E6 VK2

T L T I S R L E P E D F A V Y C Q Q Y G S S P

CDR3

T F G G G T K V E I K (JK4)

Figure 29

Anti-PD-L1 12B7 VK region

I6 germline	E I V L T Q S P A T L S L S P G E R A T L S C R A S Q S V S S	CDR1
12B7 VK	- - - - -	- - - - -

I6 germline	Y L A W Y Q Q K P G Q A P R L L I Y D A S N R A T G I P A R F	CDR2
12B7 VK	- - - - -	- - - - -

I6 germline	S G S G S G T D F T L T I S S L E P E D F A V Y C Q Q R S N	CDR3
12B7 VK	- - - - -	- - - - -

I6 germline	W P	
JK5 germline	T F G Q G T R L E I K	(JK5)
12B7 VK	- - - - -	- - - - -

Figure 30

Anti-2D-L1 13G4 VK region

L18 germline
13G4 VK

A I Q L T Q S P S S L S A S V G D R V T I T C R A S Q G I S S

CDR1

L18 germline
13G4 VK

A L A W Y Q Q K P G K A P K L L I Y D A S S L E S G V P S R F

CDR2

L18 germline
13G4 VK

S G S G S G T D F T L T I S S L Q P E D F A T Y Y C Q Q F N S

CDR3

L18 germline
JK3 germline
13G4 VK

Y P F T F G P G T K V D I K (JK3)

Figure 31

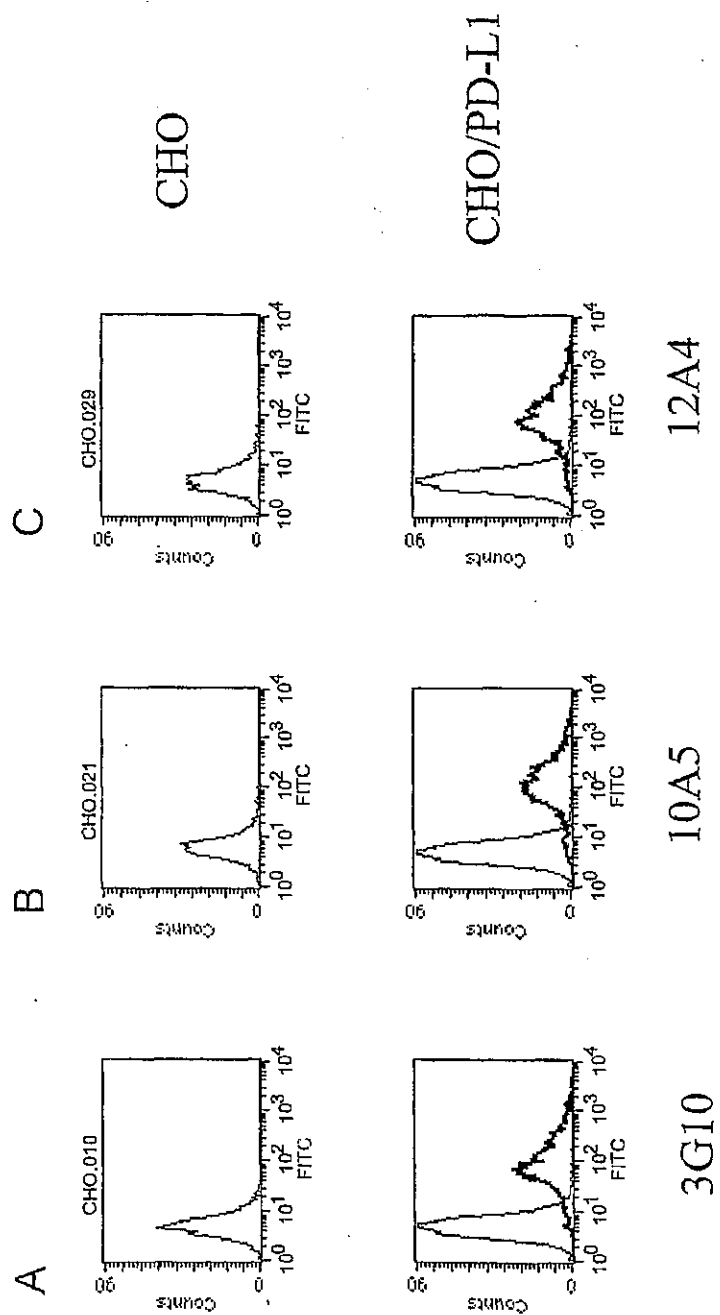


Figure 32

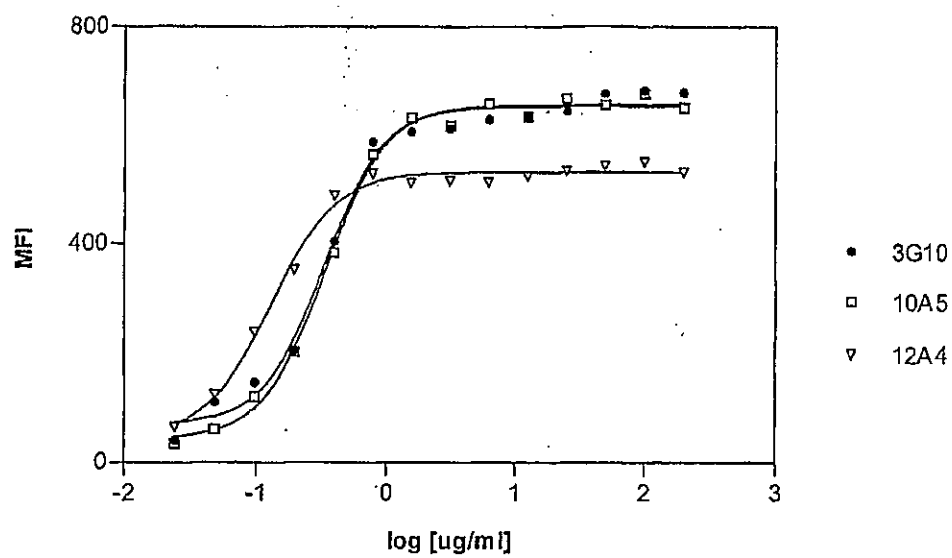


Figure 33

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Binding of HuMab anti-PD-L1 antibodies to hPD-L1/Fc (by ELISA)

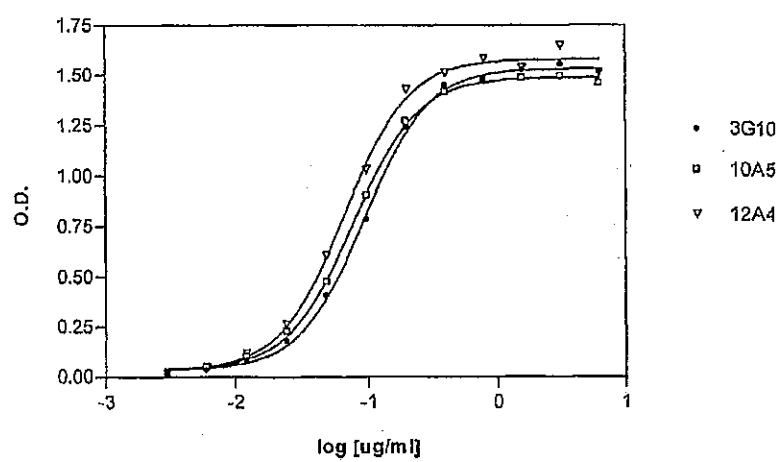


Figure 34

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PDL1 HuMab titration on stimulated Human CD4+ T cells

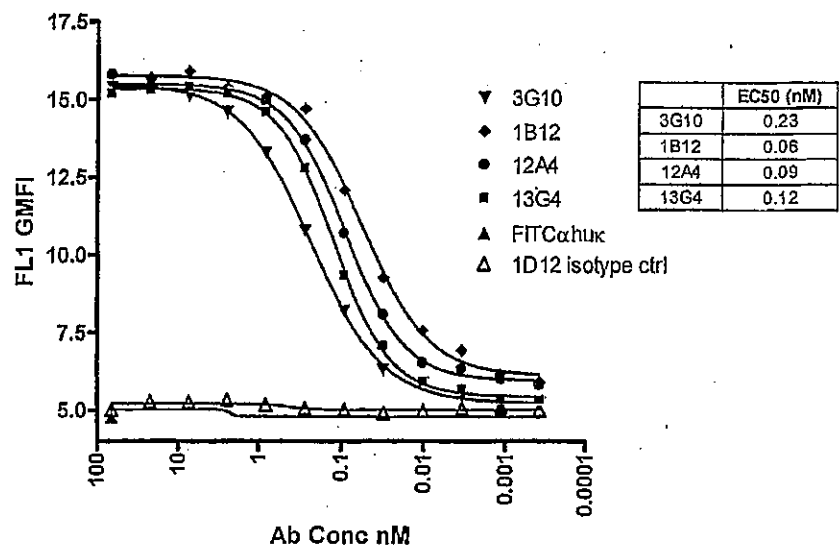


Figure 35

PDL1 HuMab titration on activated cynomolgus PBMC

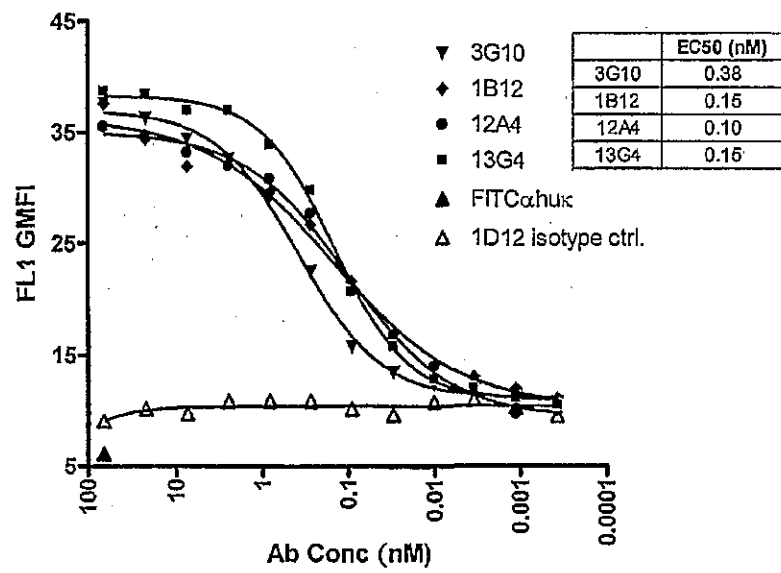


Figure 36

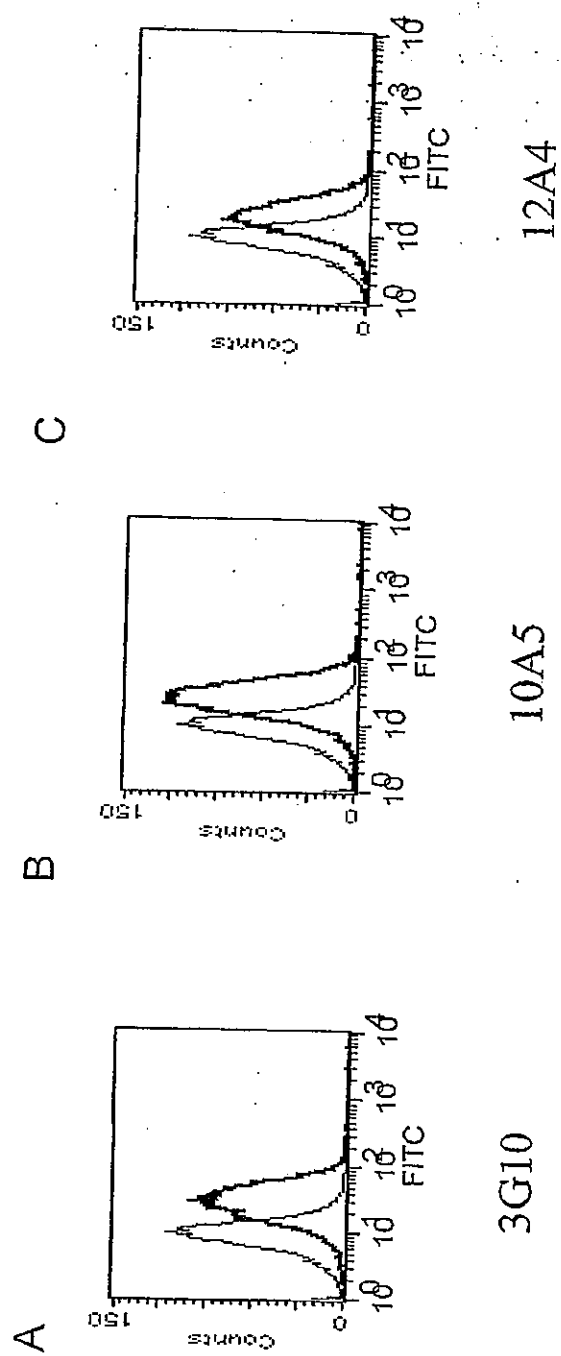


Figure 37

IFN γ -Treated ES-2 Cell Titration -
anti-Hu Kappa Detection of α PDL1 HuMAbs

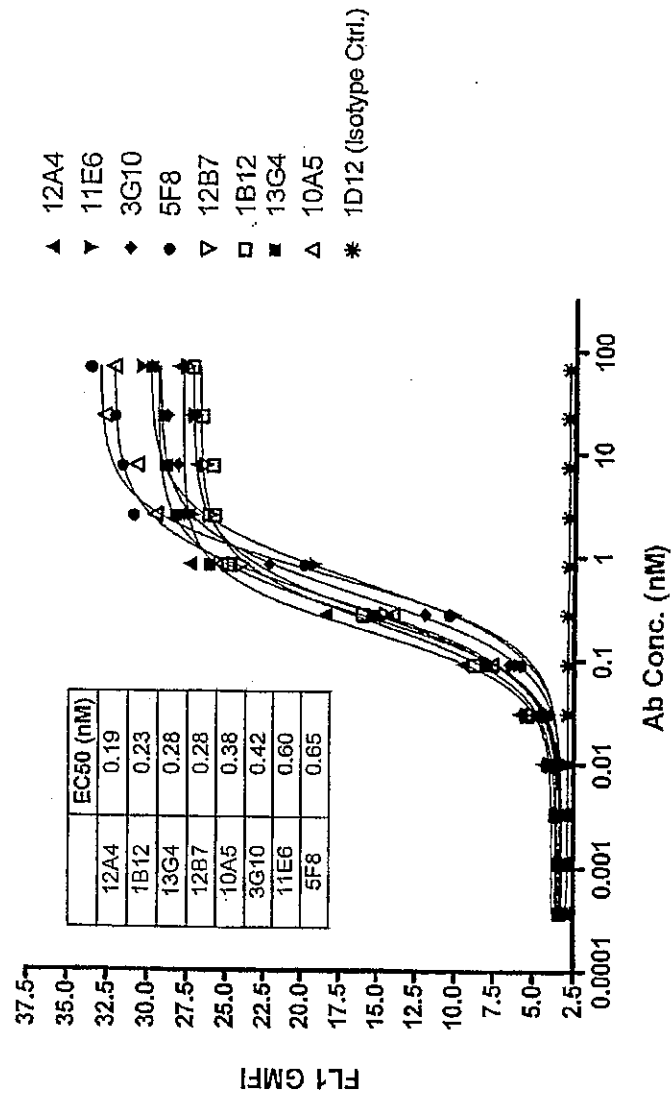


Figure 38

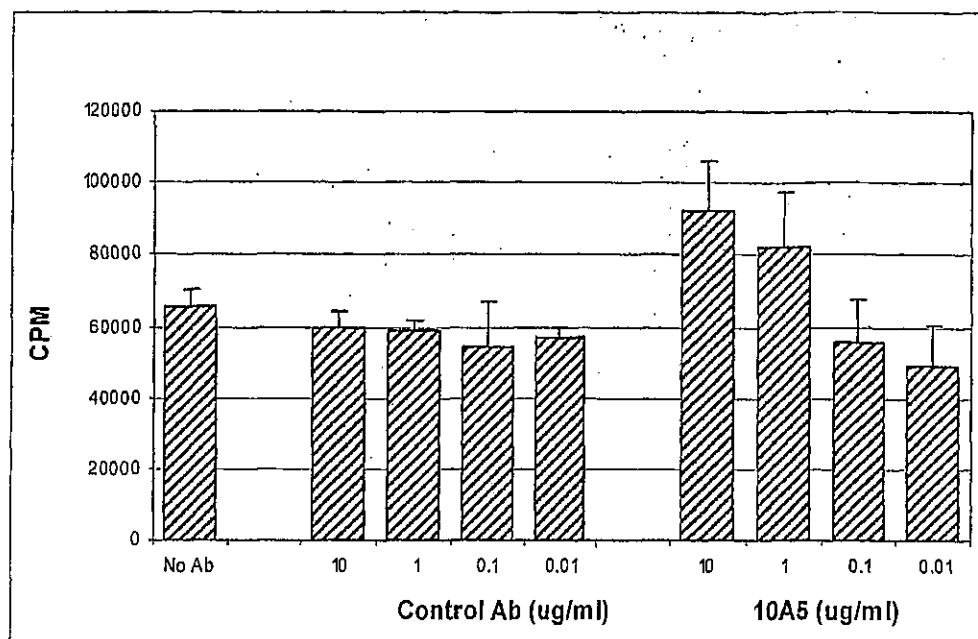


Figure 39A

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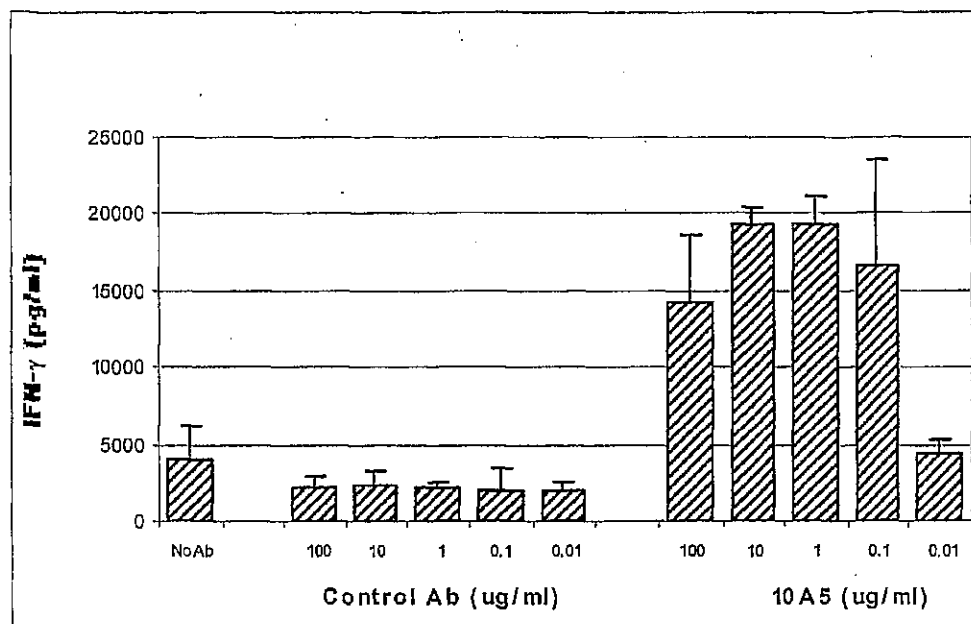


Figure 39B

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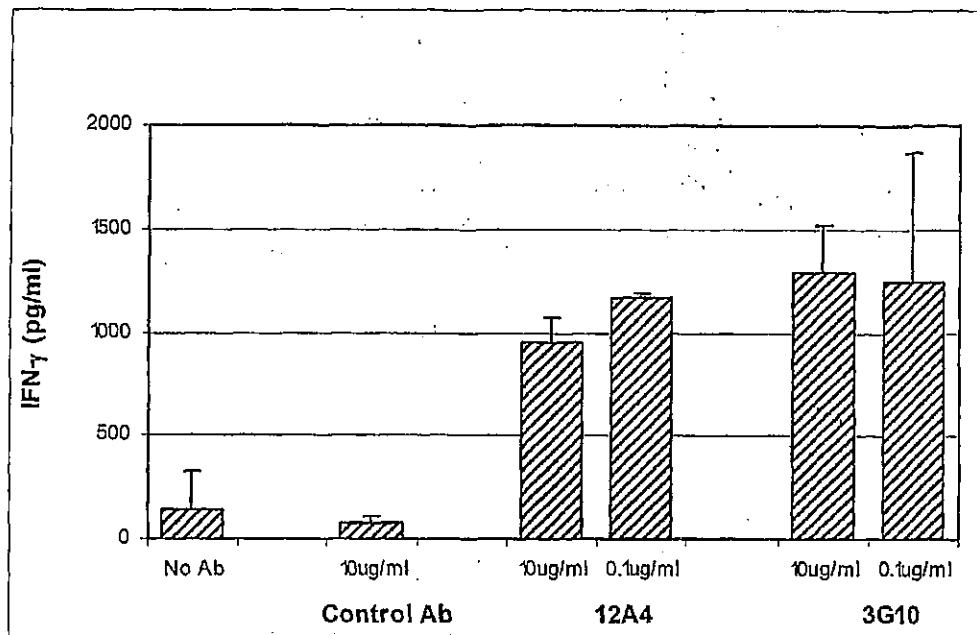


Figure 39C

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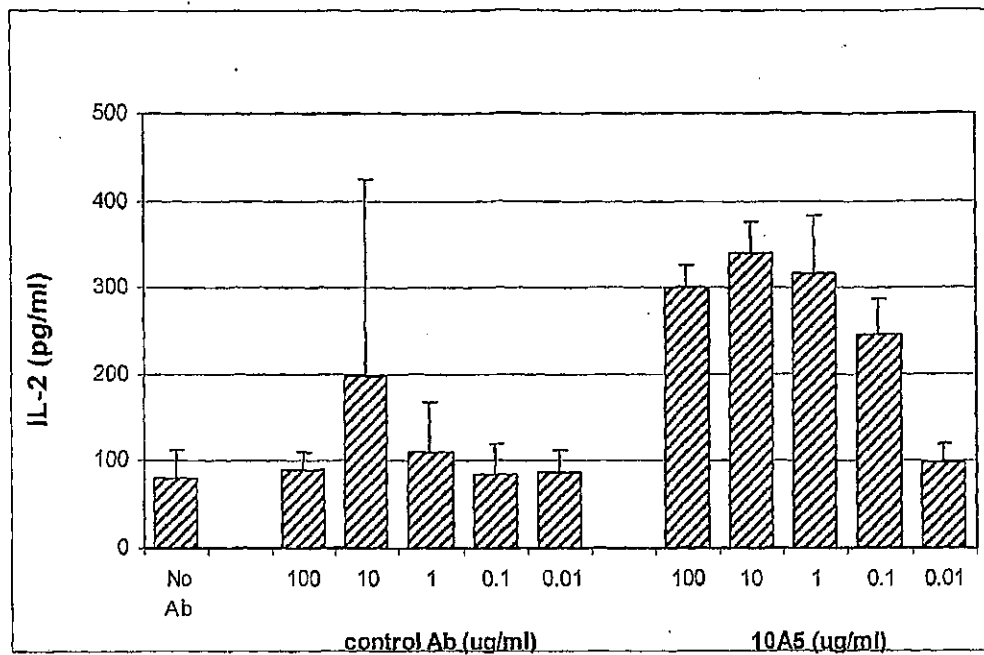


Figure 39D

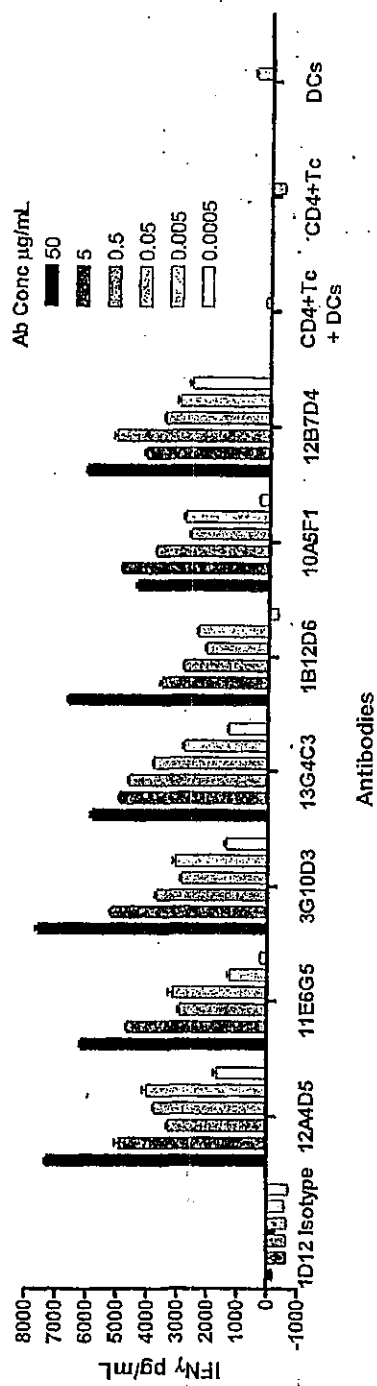
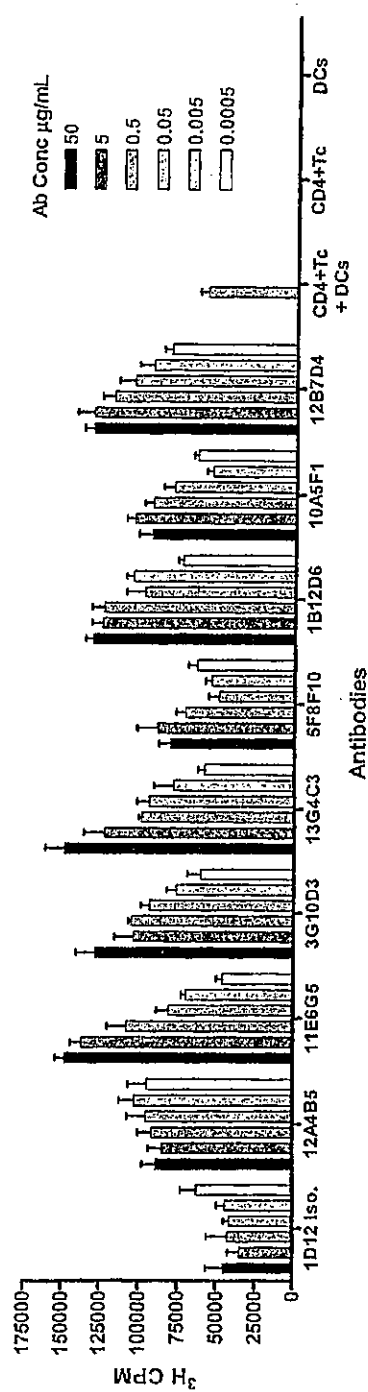


Figure 40

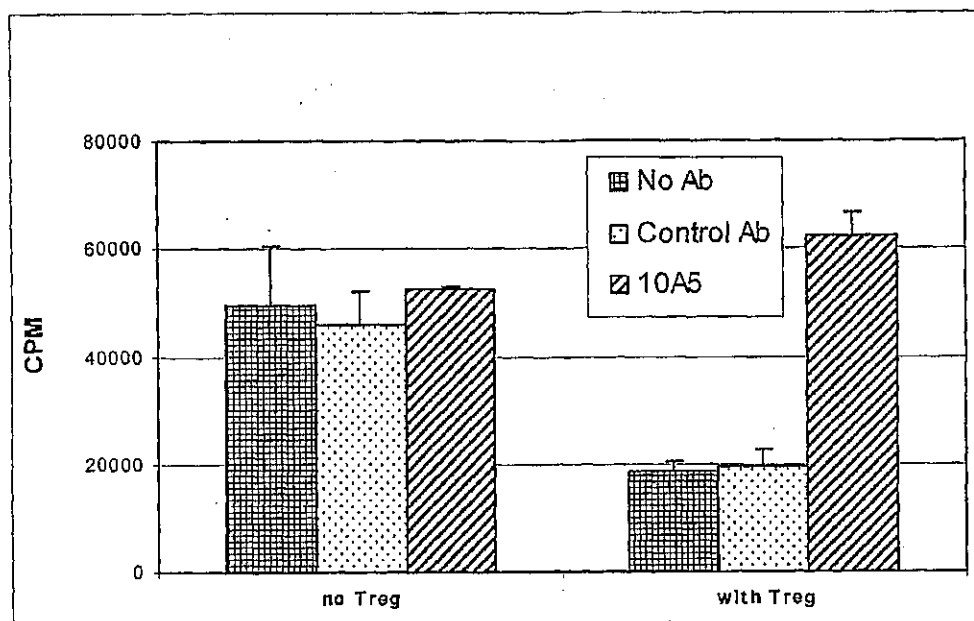


Figure 41A

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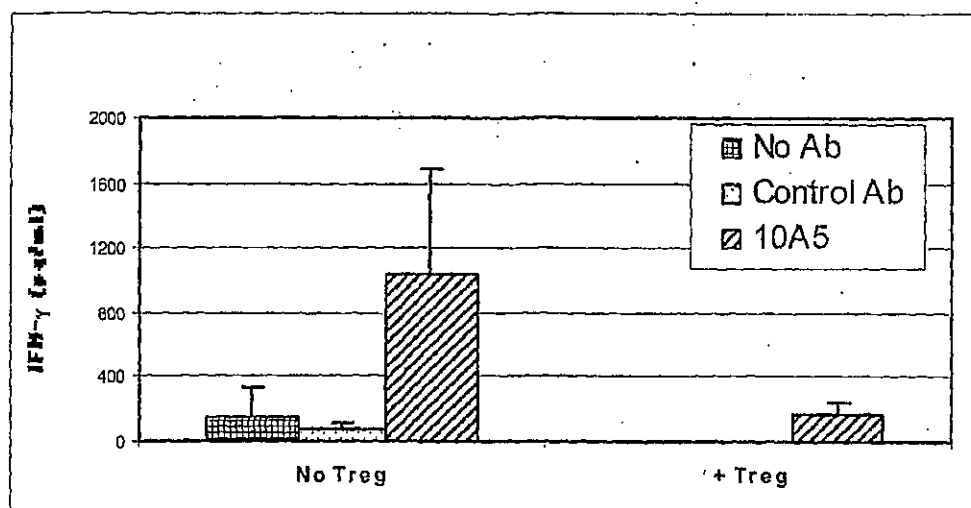


Figure 41B

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Proliferative response in a T/Treg/DC MLR in the presence of anti-PDL1 human antibodies

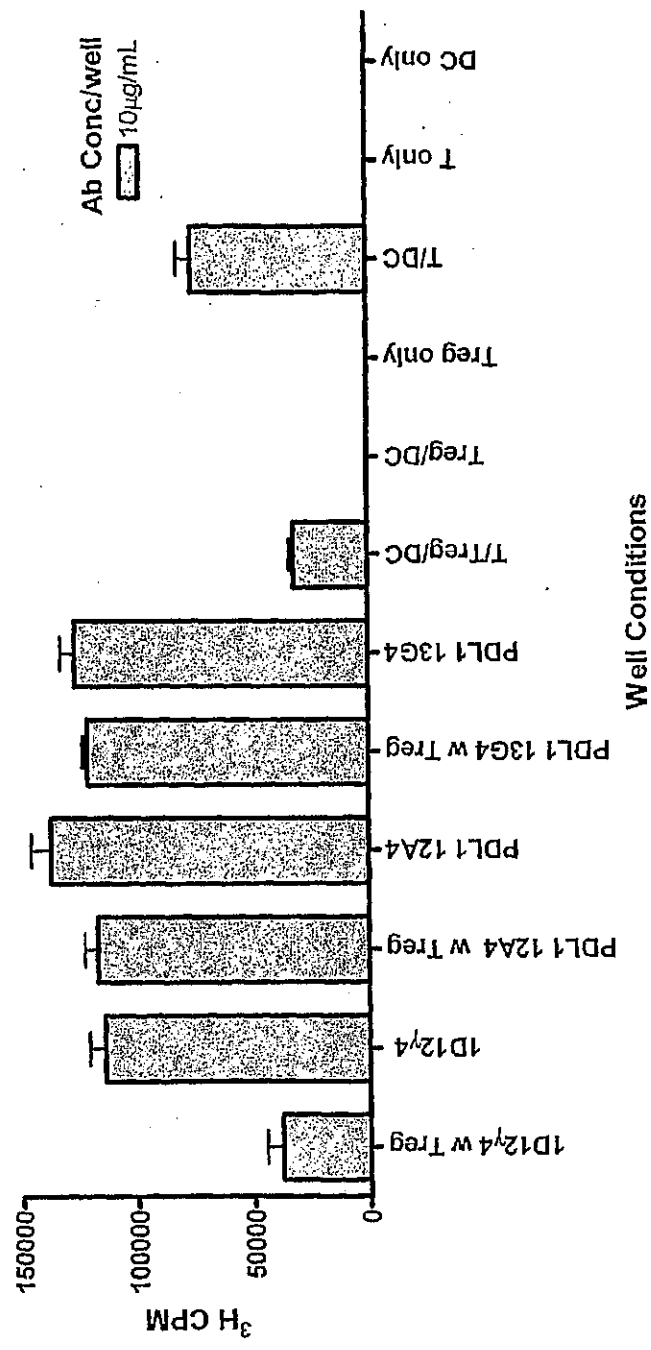


Figure 42

IFN γ release in a T/Treg/DC MLR in the presence of anti-PDL1 human antibodies

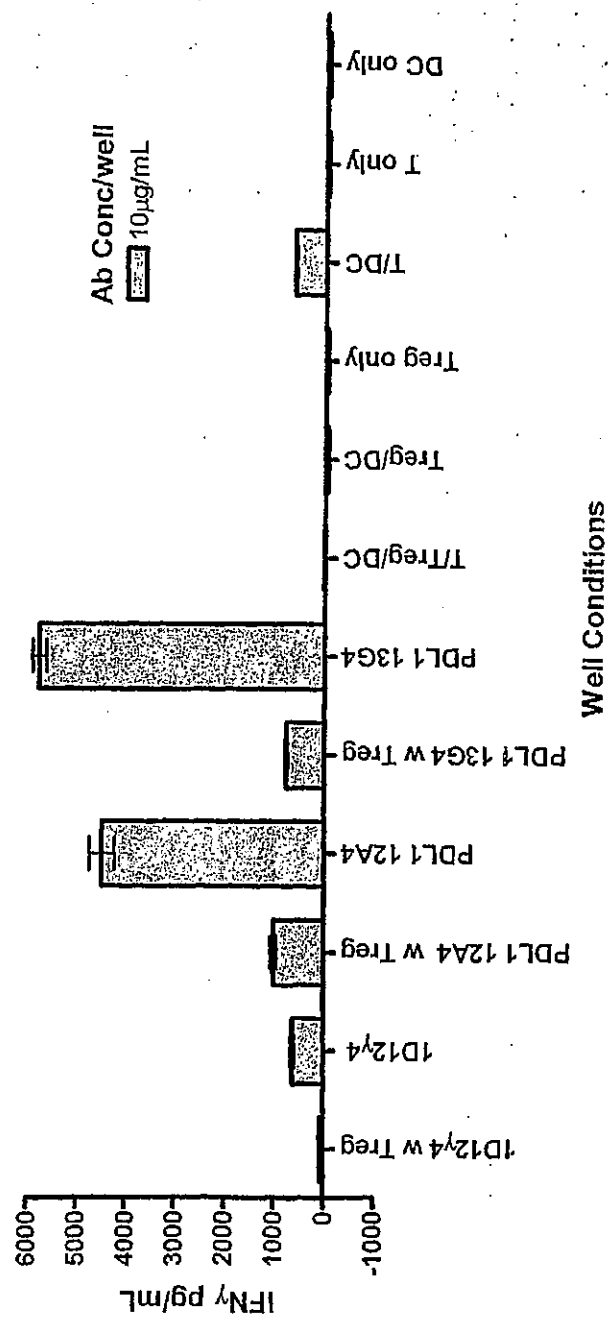


Figure 43

CMV Lysate stimulated Human PBMC - INF- γ Secretion

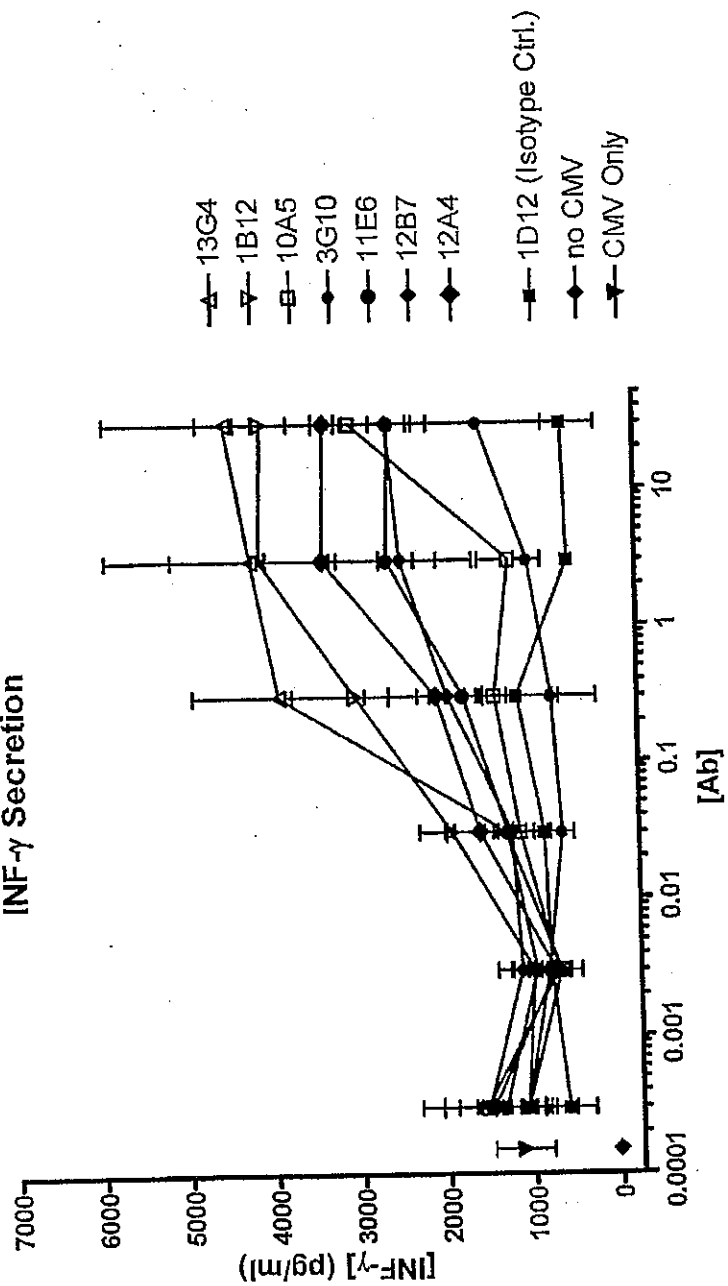


Figure 44

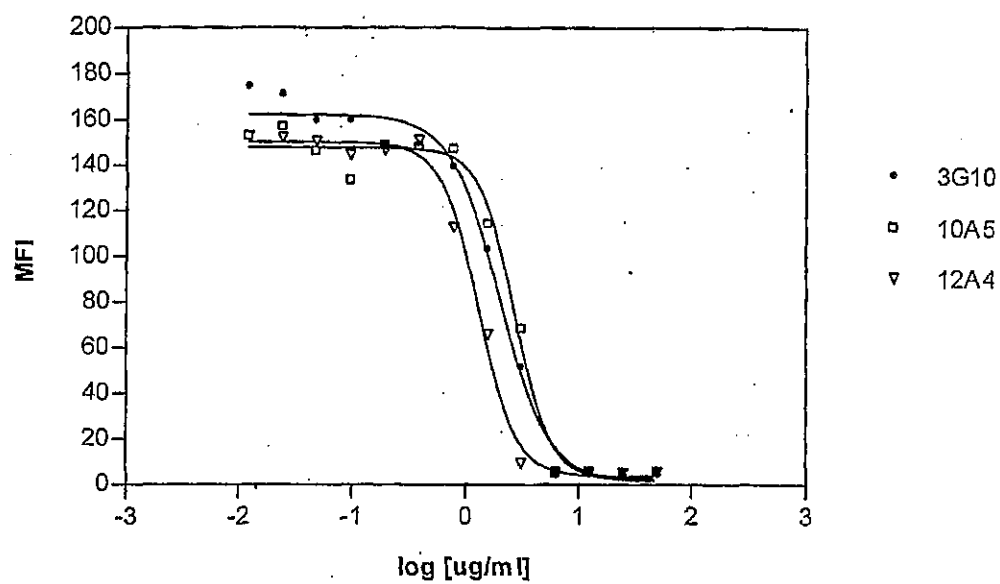


Figure 45

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Blockade of PD1-Ig Binding by anti-PDL1 Abs on IFN-gamma-treated ES-2 Cells

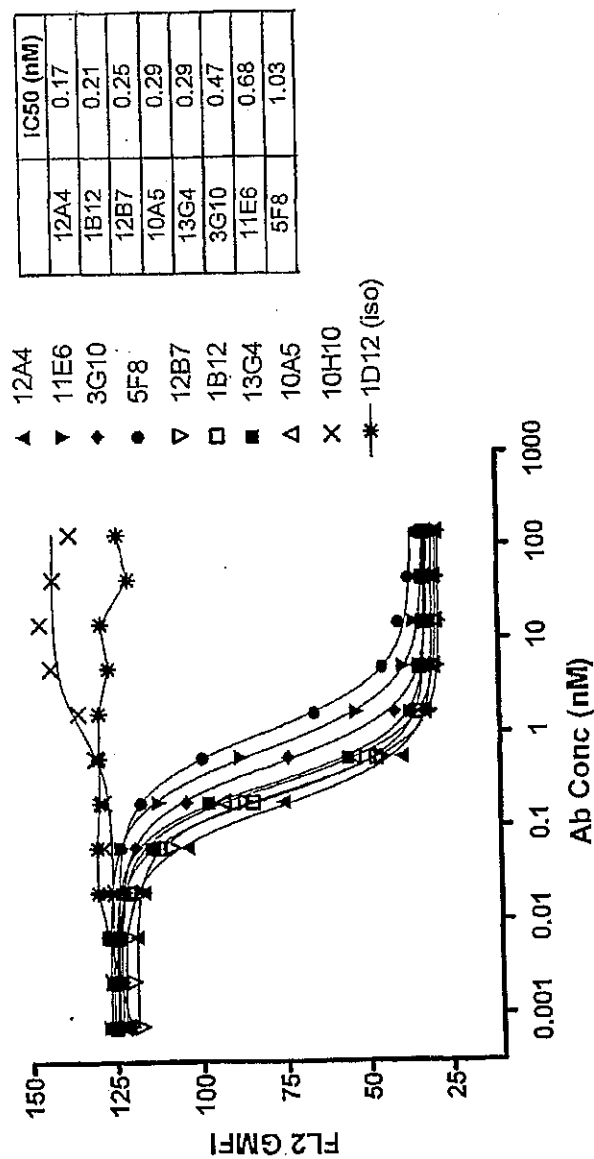


Figure 46

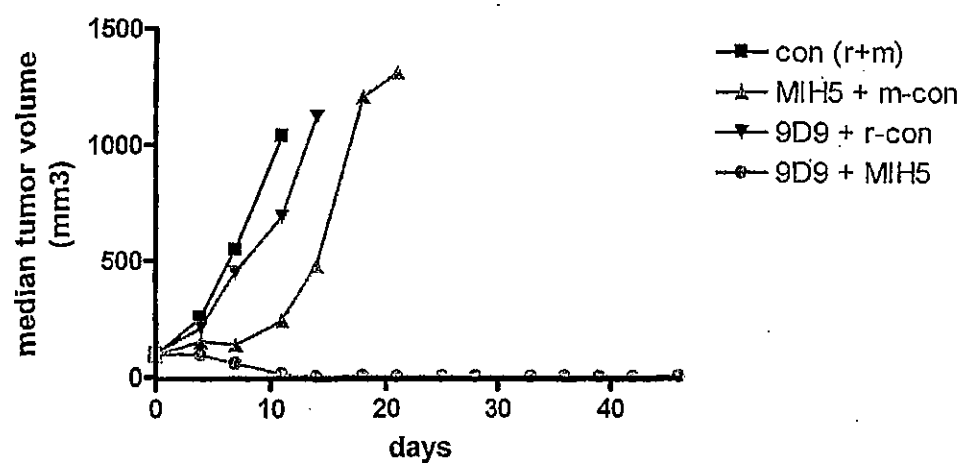


Figure 47