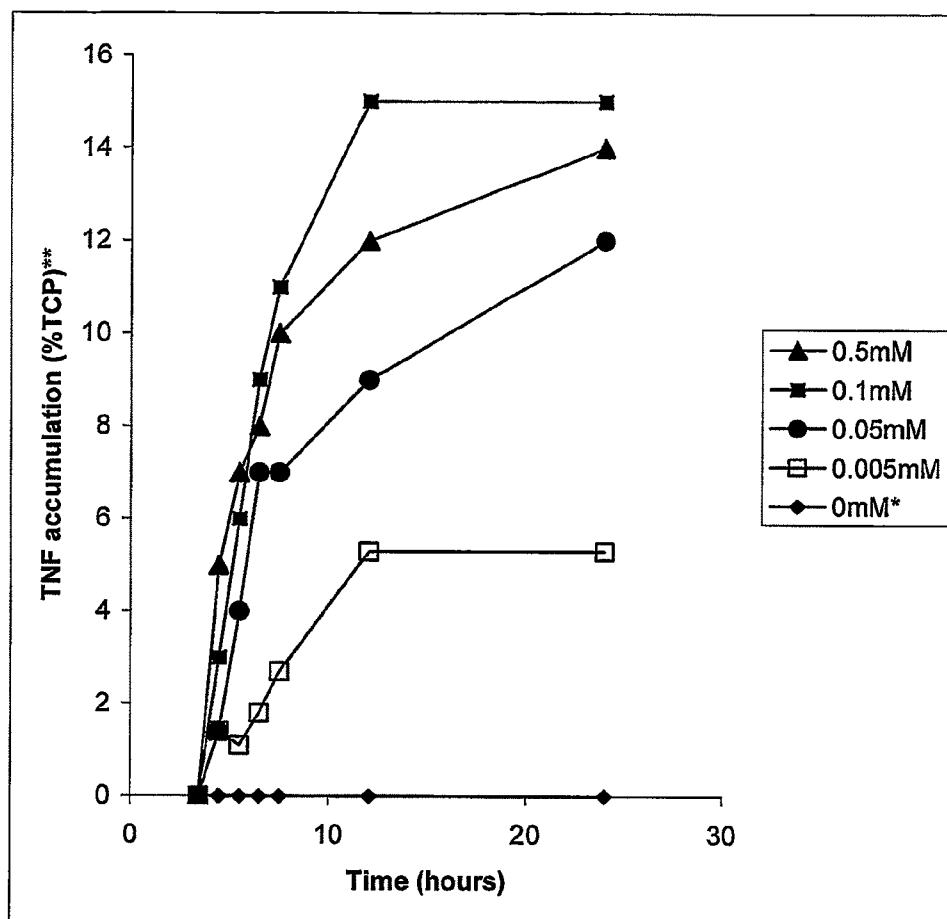


Figure 1

D1.3 Sequence

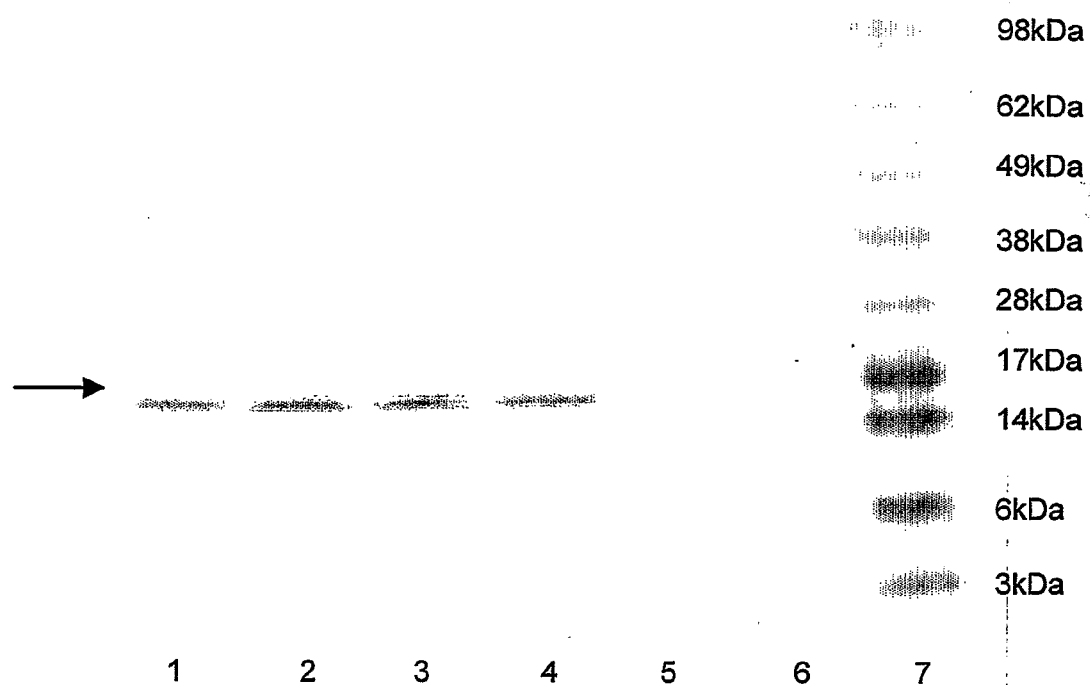
CATATGAAATACCTATTGCCTACGGCAGCCGCTGGATTGTTATTACTCGCTGCCCAA
CCAGCGATGGCCCAGGTGCAGCTGCAGGAGTCAGGACCTGGCCTGGTGGCGCCCT
CACAGAGCCTGTCCATCACATGCACCGTCTCAGGGTTCTCATTAAACGGCTATGGTG
TAAACTGGGTTCGCCAGCCTCCAGGAAAGGGTCTGGAGTGGCTGGGAATGATTTGG
GGTGATGGAAACACAGACTATAATTAGCTCTCAAATCCAGACTGAGCATCAGCAAG
GACAACTCCAAGAGCCAAGTTTTCTTAAAAATGAACAGTCTGCACACTGATGACACAG
CCAGGTACTACTGTGCCAGAGAGAGAGATTATAGGCTTGACTACTGGGGCCAAGGG
ACCACGGTCACCGTCTCCTCAGCCTCCACCAAGGGGCCCATCGGTCTTCCCCCTGGC
ACCCTCCTCCAAGAGCACCTCTGGGGGCACAGCGGCCCTGGGCTGCCTGGTCAAG
GACTACTTCCCCGAACCGGTGACGGTGTCTGTGGAACCTCAGGCGCCCTGACCAGCGG
CGTGACACACCTTCCCGGCTGTCTACAGTCCTCAGGACTCTACTCCCTCAGCAGCGT
GGTGACTGTGCCCTCCAGTAGCTTGGGCACCCAGACCTACATCTGCAACGTGAATCA
CAACCCAGCAACACCAAGGTGACAAAGAAAGTTGAGCCCAAATCTTCAACTAAGAC
GCACACATCAGGAGGTGAACAGAAGCTCATCTCAGAAGAGGATCTGAATTAATAAGG
GAGCTTGCATGCAAATTCTATTTCAAGGAGACAGTCATAATGAAATACCTATTGCCTA
CGGCAGCCGCTGGATTGTTATTACTCGCTGCCCAACCAGCGATGGCCGACATCGAG
CTACCCAGTCTCCAGCCTCCCTTTCTGCGTCTGTGGGAGAAACTGTCACCATCACA
TGTCGAGCAAGTGGGAATATTCACAATTATTTAGCATGGTATCAGCAGAAACAGGGA
AAATCTCCTCAGCTCCTGGTCTATTATACAACAACCTTAGCAGATGGTGTGCCATCAA
GGTTCAGTGGCAGTGGATCAGGAACACAATATTCTCTCAAGATCAACAGCCTGCAAC
CTGAAGCTTTTGGGAGTTATTACTGTCAACATTTTTGGAGTACTCCTCGGACGTTCGG
TGGAGGGACCAAGCTCGAGATCAAACGGACTGTGGCTGCACCATCTGTCTTCATCTT
CCCGCCATCTGATGAGCAGTTGAAATCTGGAACCTGCCTCTGTTGTGTGCCTGCTGAA
TAACCTTCTATCCCAGAGAGGGCCAAAGTACAGTGGAAGGTGGATAACGCCCTCCAATC
GGGTAACCTCCAGGAGAGTGTACAGAGCAGGACAGCAAGGACAGCACCTACAGCC
TCAGCAGCACCTGACGCTGAGCAAAGCAGACTACGAGAAACACAAAGTCTACGCC
TGCGAAGTCACCCATCAGGGCCTGAGTTCGCCCGTCACAAAGAGCTTCAACCGCGG
AGAGTCATAGTAAGGATCC

Figure 2



(*) = Basal expression, no inducer (IPTG) added

(**) = % TCP, % Total Cell Protein

Figure 3

Arrow denotes hTNF α band

Lane 6: CLD038: 2h incubation (pre-induction)

Lane 5: CLD038: 4h incubation (pre-induction)

Lane 4: CLD038: 1h post IPTG induction

Lane 3: CLD038: 2h post IPTG induction

Lane 2: CLD038: 3h post IPTG induction

Lane 1: CLD038: 4h post IPTG induction

Lane 7: Molecular weight markers

Figure 4

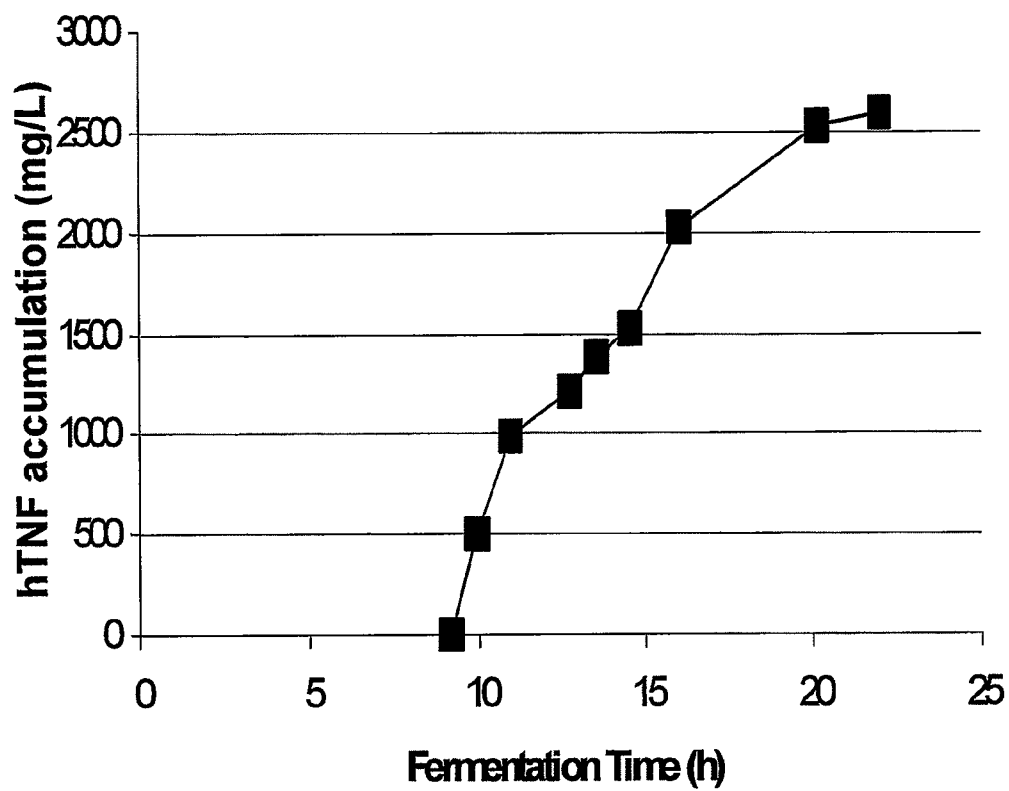


Figure 5

D1.3-A5B7 Bispecific Single Chain Tetravalent Diabody (bsctDb) Sequence (SEQ ID NO 22)

CATATGAAAAAGACAGCTATCGCGATTGCAGTGGCACTGGCTGGTTTCGCTACCGTA
GCTCAAGCCCAGGTGCAGCTGCAGGAGTCAGGACCTGGCCTGGTGGCGCCCTCAC
AGAGCCTGTCCATCACATGCACCGTCTCAGGGTTCTCATTAAACGGGCTATGGTGTAA
ACTGGGTTTCGCCAGCCTCCAGGAAAGGGTCTGGAGTGGCTGGGAATGATTTGGGGT
GATGGAAACACAGACTATAATTAGCTCTCAAATCCAGACTGAGCATCAGCAAGGAC
AACTCCAAGAGCCAAGTTTTCTTAAAAATGAACAGTCTGCACACTGATGACACAGCCA
GGTACTACTGTGCCAGAGAGAGAGATTATAGGCTTGACTACTGGGGCCAAGGGACC
ACGGTCACCGTCTCCTCAGCCTCCACCAAGGGGCCATCGAGCGCCAAAACACCCCC
GGACATCGAGCTCTCCAGTCTCCAGCAATCCTGTCTGCATCTCCAGGGGAGAAGG
TCACAATGACTTGCAGGGCCAGCTCAAGTGTAACCTTACATTCACTGGTACCAGCAGA
AGCCAGGATCCTCCCCCAAATCCTGGATTTATGCCACATCCAACCTGGCTTCTGGAG
TCCCTGCTCGCTTCAGTGGCAGTGGGTCTGGGACCTCTTACTCTCTCACAATCAGCA
GAGTGGAGGCTGAAGATGCTGCCACTTATTACTGCCAACATTGGAGTAGTAAACCAC
CGACGTTTCGGTGGAGGGACCAAGCTCGAGATCAAACGGACTGTGCGCGCCGATGC
CGCCCCGACCGTGCAGGTGCAGCTGCAGGAATCTGGTGGTGGCTTAGTTCAACCTG
GTGGTTCCTGAGACTCTCCTGTGCAACTTCTGGGTTACCTTCACTGATTACTACAT
GAACTGGGTCCGCCAGCCTCCAGGAAAGGCACTTGAGTGGTTGGGTTTTATTGGAA
ACAAAGCTAATGGTTACACAACAGAGTACAGTGCATCTGTGAAGGGTCGGTTCACCA
TCTCCAGAGATAAATCCCAAAGCATCCTCTATCTTCAAATGAACACCCTGAGAGCTGA
GGACAGTGCCACTTATTACTGTACAAGAGATAGGGGGCTACGGTTCTACTTTGACTA
CTGGGGCCAAGGCACCACGGTCACCGTCTCCTCAGCCTCCACCAAGGGGCCATCGA
GCGCCAAAACACCCCGGACATCGAGCTCAACCAGTCTCCAGCCTCCCTTTCTGCG
TCTGTGGGAGAACTGTCAACATCACATGTGAGCAAGTGGGAATATTCACAATTATT
TAGCATGGTATCAGCAGAAACAGGGAAAATCTCCTCAGCTCCTGGTCTATTATACAAC
AACCTTAGCAGATGGTGTGCCATCAAGGTTCAAGTGGCAGTGGATCAGGAACACAATA
TTCTCTCAAGATCAACAGCCTGCAACCTGAAGCTTTTGGGAGTTATTACTGTCAACAT
TTTTGGAGTACTCCTCGGACGTTCCGGTGGAGGGACCAAGCTCGAGATCAAACGGAC
TGTGGGATCCGAACAAAAGCTGATCTCAGAAGAAGACCTAACTCATGATAAGCGGC
CGC

Figure 6

GST-3C Fusion Sequence (SEQ ID NO 23)

CATATGTCCCCTATACTAGGTTATTGGAAAATTAAGGGCCTTGTGCAACCCACTCGAC
TTCTTTTGAATATCTTGAAGAAAAATATGAAGAGCATTTGTATGAGCGCGATGAAGG
TGATAAATGGCGAAACAAAAAGTTTGAATTGGGTTTGGAGTTTCCCAATCTTCCTTAT
TATATTGATGGTGATGTTAAATTAACACAGTCTATGGCCATCATACGTTATATAGCTGA
CAAGCACAAACATGTTGGGTGGTTGTCCAAAAGAGCGTGCAGAGATTTCAATGCTTGA
AGGAGCGGTTTTGGATATTAGATACGGTGTTCGAGAATTGCATATAGTAAAGACTTT
GAAACTCTCAAAGTTGATTTTTCTTAGCAAGCTACCTGAAATGCTGAAAATGTTCGAAG
ATCGTTTATGTCATAAAACATATTTAAATGGTGATCATGTAACCCATCCTGACTTCATG
TTGTATGACGCTCTTGATGTTGTTTTATACATGGACCCAATGTGCCTGGATGCGTTCC
CAAATTAGTTTGTTTTAAAAAACGTATTGAAGCTATCCACAAATTGATAAGTACTTG
AAATCCAGCAAGTATATAGCATGGCCTTTGCAGGGCTGGCAAGCCACGTTTGGTGGT
GGCGACCATCCTCCAAAATCGGATCTGGTTCGCGTGGATCCGGACCAAACACAGA
ATTTGCACTATCCCTGTTAAGGAAAAACATAATGACTATAACAACCTCAAAGGGAGAG
TTCACAGGGTTAGGCATACATGATCGTGTCTGTGTGATACCCACACACGCACAGCCT
GGTGATGATGTACTAGTGAATGGTCAGAAAATTAGAGTTAAGGATAAGTACAAATTAG
TAGATCCAGAGAACATTAATCTAGAGCTTACAGTGTTGACTTTAGATAGAAATGAAAA
ATTCAGAGATATCAGGGGATTTATATCAGAAGATCTAGAAGGTGTGGATGCCACTTTG
GTAGTACATTCAAATAACTTTACCAACACTATCTTAGAAGTTGGCCCTGTAACAATGG
CAGGACTTATTAATTTGAGTAGCACCCCCACTAACAGAATGATTCGTTATGATTATGC
AACAAAACTGGGCAGTGTGGAGGTGTGCTGTGTGCTACTGGTAAGATCTTTGGTAT
TCATGTTGGCGGTAATGGAAGACAAGGATTTTCAGCTCAACTTAAAAACAATATTTT
GTAGAGAAACAATAAGAATTCC

Figure 7**Interferon $\alpha 2$ Sequence (SEQ ID NO 24)**

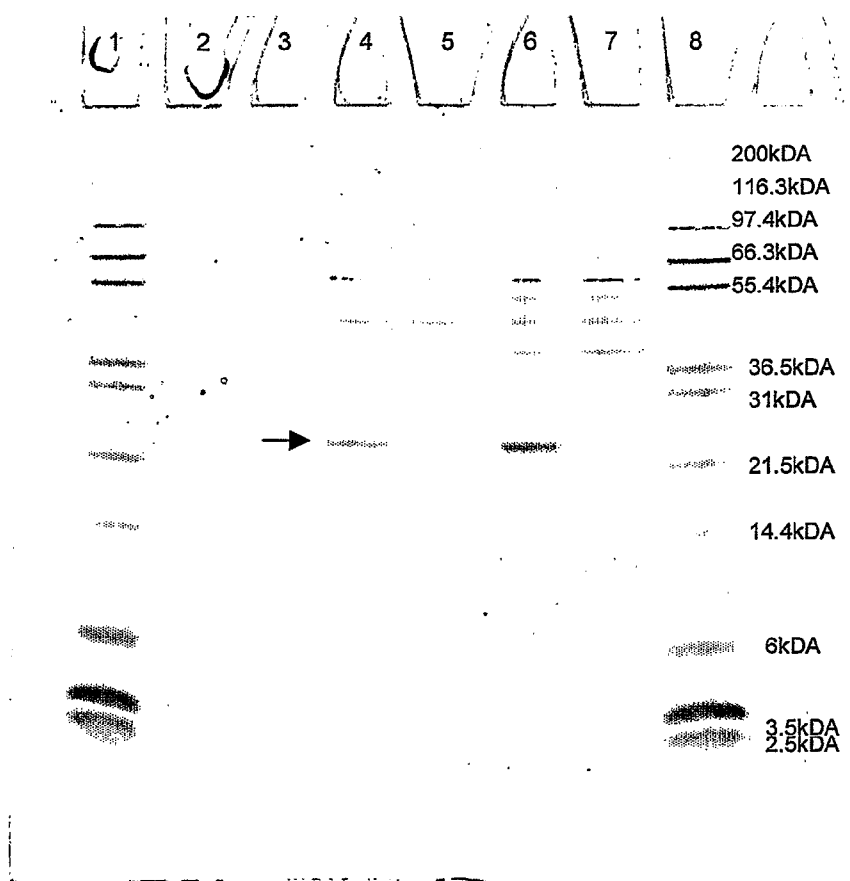
CATATGATGTGTGATCTGCCGCAAACCTCATAGCCTGGGTAGCCGTCGCACCCTGATG
CTGCTGGCCCAAATGCGCCGTATCTCCCTGTTCTCCTGTCTGAAAGACCGCCATGAC
TTTGGCTTCCCGCAGGAAGAGTTCCGTAACCAGTTCCAAAAGGCAGAAACTATCCCG
GTA CTGCACGAAATGATTCAACAGATTTTAACTGTTTCAGCACTAAAGACTCCTCT
GCTGCATGGGACGAAACTCTCCTGGACAAATTCTACACCGAACTGTACCAGCAACTG
AACGACCTGGAAGCCTGCGTCATCCAGGGTGTTGGCGTAACCGAAACTCCGCTGAT
GAAAGAAGACTCCATCCTGGCTGTTTCGCAAATACTTCCAGCGTATCACCTGTACCT
GAAAGAGAAGAAATACAGCCCGTGCGCTTGGGAAGTTGTACGCGCTGAAATCATGC
GTTCCCTCAGCCTGTCCACTAACCTGCAAGAATCTCTGCGTAGCAAAGAATAACTCG
AG

Figure 8**Erythropoietin (EPO) Sequence (SEQ ID NO 25)**

CATATGGCTCCGCCACGTCTGATTTGTGACTCTCGCGTTCTGGAGCGTTACCTGCTG
GAGGCCAAGGAAGCCGAAAACATCACGACCGGTTGTGCGGAACATTGCTCTCTGAA
TGAGAACATCACTGTTCCGGATACGAAGGTTAACTTCTACGCTTGGAACGTATGGA
AGTAGGCCAGCAGGCAGTAGAAGTGTGGCAGGGTCTGGCGCTGCTGTCCGAAGCG
GTTCTGCGTGGCCAGGCGCTGCTGGTCAACTCCAGCCAGCCGTGGGAGCCGCTGC
AGCTGCACGTAGATAAAGCGGTTAGCGGTCTGCGTTCCCTGACTACCCTGCTGCGC
GCGCTGGGTGCGCAAAAAGAAGCTATCTCCCCGCCAGATGCGGCATCTGCAGCCCC
GCTGCGTACCATCACTGCAGATACTTTCCGCAAGCTGTTTCGTGTTTATTCCAACCTC
CTGCGTGGTAAACTGAAGCTGTACACCGGTGAAGCGTGCCGTACCGGCGATCGTTA
ATAAACTCGAG

Figure 9**L-2-Haloalkanoate Dehalogenase (hadL) Sequence (SEQ ID NO 26)**

CATATGAAGGAAATAACCAATGAAAAACATCCAAGGTATCGTTTTCGATTTGTATGGC
ACGCTCTACGACGTGCATTCCGTGGTGCAAGCCTGTGAAGAGGTCTATCCGGGCCA
AGGCGACGCTATTTCTCGCCTCTGGCGGCCAAAAGCAATTGGAATACACCTGGCTCAG
GAGCCTCATGGGCCGTTACGTGAACTTTGAGAAAGCAACAGAGGATGCCTTGCGCTT
TACCTGCACGCATCTGGGCTTGTCGCTCGATGATGAAACCCACCAGCGCCTCAGTG
ATGCTTATTTGCACCTCACCCCTTATGCCGATACAGCTGACGCCGTTGCGCGTTTGA
AAGCTGCGGGCCTACCGCTAGGCATCATTTCAAATGGTTCTCATTGCTCGATCGAGC
AAGTCGTGACTAACTCTGAAATGAATTGGGCGTTCGATCAGCTGATCAGCGTCGAGG
ATGTGCAAGTGTTCAAACCTGATAGTCGCGTCTATAGCCTTGCCGAGAAGCGCATGG
GTTTTCCAAAGGAAAACATCCTCTTCGTTTTCGTCAAACGCGTGCGGATGCGAGTGCAG
CCAGTAACTTTGGTTTCCCGGTTTGCTGGATCAATCGGCAGAACGGCGCGTTTGATG
AGCTGGATGCAAAGCCGACACACGTCGTGCGTAATCTCGCCGAAATGTCGAACTGG
CTGGTTAATTCGCTCGATTAATGAAGGATCC

Figure 10

Arrow denotes position for HadL protein

Lane 1: Molecular weight markers

Lane 2: Flask 1 - CLD075 pre-induction

Lane 3: Flask 2 - CLC075 pre-induction

Lane 4: Flask 1 - CLD075, 6h culture, 3h post 0.5mM IPTG induction

Lane 5: Flask 2 - CLD075, 6h culture, no induction

Lane 6: Flask 1 - CLD075, 23h culture, 20h post 0.5mM IPTG induction

Lane 7: Flask 2 - CLD075, 23h culture, no induction

Lane 8: Molecular weight markers

Figure 11

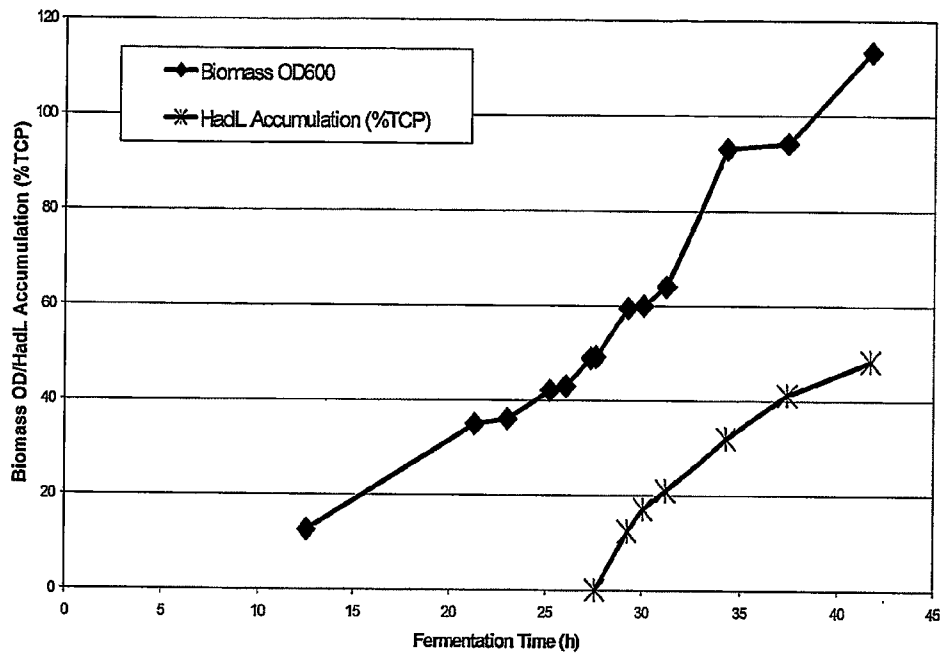


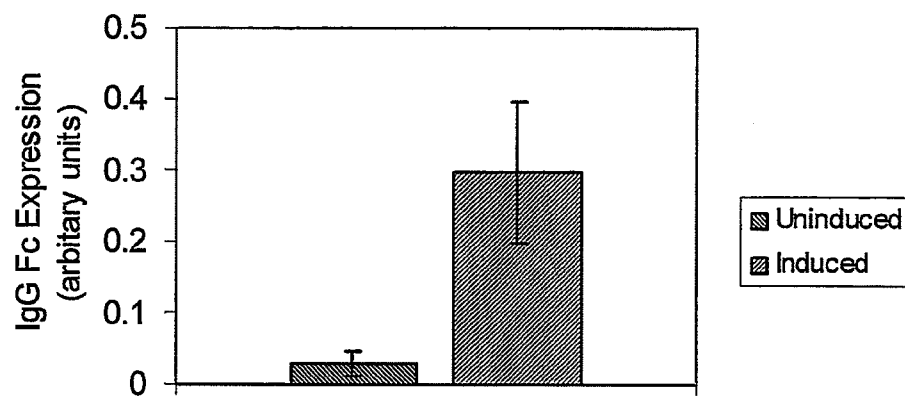
Figure 12

hCMV Promoter and Lac Operator Sequence (SEQ ID NO 33)

CATATGCCAAGTCCGCCCCCTATTGACGTCAATGACGGTAAATGGCCCGCCTGGCAT
TATGCCCAGTACATGACCTTACGGGACTTTCCTACTTGGCAGTACATCTACGTATTAG
TCATCGCTATTATACCATGGTGATGCGGTTTTGGCAGTACACCAATGGGCGTGGATA
GCGGTTTGACTCACGGGGATTTC AAGTCTCCACCCCAT TGACGTCAATGGGAGTTT
GTTTTGGCACCAAAATCAACGGGACTTTC AAAATGTCGTAATAACCCCGCCCCGTT
GACGCAAATGGGGAATTGTGAGCGCTCAC AATTCCTCTATATAAGCAGAGCTCGTTT
AGTGAACCGTCAGATCACTAGATGCGTACAGTCCGATGACTTG CATGGAATTGTGAG
CGCTCAC AATTC AAGCTTTATTGCGGTATAGGCTAGC

Figure 13**IgG Fc Sequence (SEQ ID NO 34)**

ATGGAGACAGACACACTCCTGCTATGGGTACTGCTGCTCTGGGTTCCAGGTTCCACT
GGTGACGCGGCCCAGCCGGCCAGGCGCGCGCGCCGTACGTACAAGCTTGGATCCG
CAGAGCCCAAATCTTGTGACAAACTCACACATGCCACCGTGCCCAGCACCTGAAC
TCCTGGGGGGACCGTCAGTCTTCCTCTTCCCCCAAAACCCAAGGACACCCTCATGA
TCTCCCGGACCCCTGAGGTCACATGCGTGGTGGTGGACGTGAGCCACGAAGACCCT
GAGGTCAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCATAATGCCAAGACAAA
GCCGCGGGAGGAGCAGTACAACAGCACGTACCGTGTGGTCAGCGTCCTCACCGTC
CTGCACCAGGACTGGCTGAATGGCAAGGAGTACAAGTGCAAGGTCTCCAACAAAGC
CCTCCCAGCCCCCATCGAGAAAACCATCTCCAAAGCCAAAGGGCAGCCCCGAGAAC
CACAGGTGTACACCCTGCCCCCATCCCGGGATGAGCTGACCAAGAACCAGGTCAGC
CTGACCTGCCTGGTCAAAGGCTTCTATCCCAGCGACATCGCCGTGGAGTGGGAGAG
CAATGGGCAGCCGGAGAACAACTACAAGACCACGCCTCCCGTGCTGGACTCCGACG
GCTCCTTCTTCTCTACAGCAAGCTCACCGTGGACAAGAGCAGGTGGCAGCAGGGG
AACGTCTTCTCATGCTCCGTGATGCATGAGGCTCTGCACAACCACTACACGCAGAAG
AGCCTCTCCCTGTCTCCGGGTAAATGA

Figure 14

(For both induced and un-induced n=4. Data presented are mean with error bars representing 1 standard deviation)

Figure 15

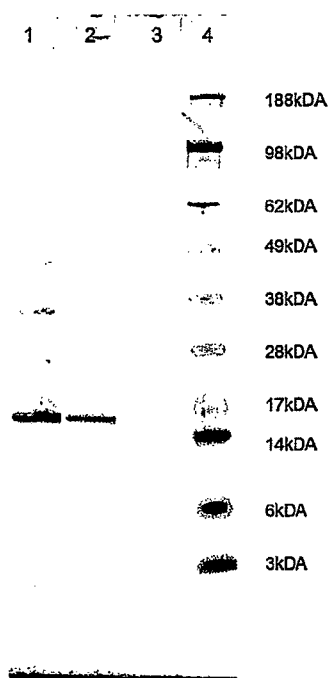
Clone Sequence 1 used in Example 20 (SEQ ID NO 35)

CTCGAGGCATGTGCTCTGTATGTATATAAACTCTTGTTTTCTTCTTTTCTCTAAATATT
CTTTCCTTATACATTAGGACCTTTGCAGCATAAATTACTATACTTCTATAGACACGCAA
ACACAAATACACACACTAAATGGCGGAGCTGAATTACATTCCCAACCGCGTGGCACA
ACAACTGGCGGGCAAACAGTCGTTGCTGATTGGCGTTGCCACCTCCAGTCTGGCCC
TGCACGCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGT
GCCAGCGTGCTGGTGTGATGGTAGAACGAAGCGGCGTCGAAGCCTGTAAAGCGG
CGGTGCACAATCTTCTCGCGCAACGCGTCAGTGGGCTGATCATTAACTATCCGCTGG
ATGACCAGGATGCCATTGCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTTCT
TTGATGTCTCTGACCAGACACCCATCAACAGTATTATTTTCTCCCATGAAGACGGTAC
GCGACTGGGCGTGGAGCATCTGGTTCGATTGGGTCACCAGCAAATCGCGCTGTTAG
CGGGCCCATTAAGTTCTGTCTCGGCGCGTCTGCGTCTGGCTGGCTGGCATAAATATC
TCACTCGCAATCAAATTCAGCCGATAGCGGAACGGGAAGGCGACTGGAGTGCCATG
TCCGGTTTTCAACAAACCATGCAAATGCTGAATGAGGGCATCGTTCCCACTGCGATG
CTGGTTGCCAACGATCAGATGGCGCTGGGCGCAATGCGCGCCATTACCGAGTCCGG
GCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGATACGACGATACCGAAGACAGCT
CATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTCGCCTGCTGGGGCAAA
CCAGCGTGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGAAGGGCAATCAG
CTTTTGCCCGTCTCACTGGTGAAAAGAAAAACCACCCTGGCGCCCAATACGCAAACC
GCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTCGCACGACAGGTTTCCCG
ACTGGAAGCGGGCAGTGA CT CGAG

Figure 16

Clone Sequence 2 used in Example 20 (SEQ ID NO 36)

GGATCCTAGGCAATAATTATGAGATAAATGGTGCAGCACTATTAAGTAGTGTGGATT
CAATAATTTCCGAATTAGGAATAAATGCGCTAAATAGACATCCCGTTCTCTTTGGTAAT
CTGCATAATTCTGATGCAATATCCAACAACATTTTGTGCAATTATTTAACAAAATCCAA
TTAACTTTTCTAATTAGTCCTTCAATAGAACATCTGTATTCCTTTTTTTTATGAACACCT
TCCTAATTAGGCCATCAACGACAGTAAATTTTGCCGAATTTAATAGCTTCTACTGAAAA
ACAGTGGACCATGTGAAAAGATGCATCTCATTTATCAAACACATAATATTCAAGTGAG
CCTTACTTCAATTGTATTGAAGTGCAAGAAAACCAAAAAGCAACAACAGGTTTTGGAT
AAGTACATATATAAGGGAATTGTGAGCGCTCACAATTCCTGTTACTGTTCTTACGATT
CATTTACGATTCAAGAATAGTTCAAACAAGAAGATTACAACTATCAATGGAATTGTGA
GCGCTCACAATTCCAAGAATGAGATTTCTTCAATTTTTACTGCTGTTTTATTTCGCAGC
ATCCTCCGCATTAGCTGCTCCAGTCAACACTACAACAGAAGATGAAACGGCACAAT
TCCGGCTGAAGCTGTCATCGGTTACTCAGATTTAGAAGGGGATTTGATGTTGCTGT
TTTGCCATTTTCCAACAGCACAAATAACGGGTTATTGTTTATAAATACTACTATTGCCA
GCATTGCTGCTAAAGAAGAAGGGGTATCTCTCGAGAAAAGAGAGGCTGAAGCTGCT
CAAGAACCAGTTAAAGGTCCTGTGTCTACTAAGCCAGGTTCTTGTCTATTATCTTGA
TTCGTTGCGCTATGTTAAACCCACCTAACCGTTGTTTGAAGGACACTGATTGTCCAGG
TATCAAAAAGTGCTGTGAAGGTTCTGCGGTATGGCTTGTTTCGTTCCACAAGAACAA
AACTCATCTCAGAAGAGGATCTGTAATAGCAGCTG

Figure 17

Lane 1: CLD077 20h post induction

Lane 2: CLD077 3h post induction

Lane 3: CLD077 pre-induction

Lane 4: Molecular weight markers

Figure 18. Plasmid map for pAVE013

