MGLPTVPGLLLPLVLLALLLEIYPISVTALVPHPRNRVKRAILCPQ
GKYIHPQDDSICCTKCHKGTYLYNDCPGPGLDTDCRECENGTFTAS
ENHLRQCLSCSKCRKEMNQVEISPCTVYRDTVCGCRKNQYRFYWSE
TLFQCNNCSLCLNGTVQISCQEKQNTICTCHAGFFLREHECVSCVN
CKKNTECGKLCLPPVETVKVPQDPGST

Figure 1: SEQ ID NO:1 – Canine TNFR p60 ECD amino acid sequence

FNECRCTDTPPCPVPEPLGGPSVLIFPPKPKDILRITRTPEVTCVV
LDLGREDPEVQISWFVDGKEVHTAKTQSREQQFNGTYRVVSVLPIE
HQDWLTGKEFKCRVNHIDLPSPIERTISKARGRAHKPSVYVLPPSP
KELSSSDTVSITCLIKDFYPPDIDVEWQSNGQQEPERKHRMTPPQL
DEDGSYFLYSKLSVDKSRWQQGDPFTCAVMHETLQNHYTDLSLSHS
PGK

Figure 2: SEQ ID NO:2 – Canine IgG HCA heavy chain

PKRENGRVPRPPDCPKCPAPEMLGGPSVFIFPPKPKDTLLIARTPE
VTCVVVDLDPEDPEVQISWFVDGKQMQTAKTQPREEQFNGTYRVVS
VLPIGHQDWLKGKQFTCKVNNKALPSPIERTISKARGQAHQPSVYV
LPPSREELSKNTVSLTCLIKDFYPPDIDVEWQSNGQQEPESKYRTT
PPQLDEDGSYFLYSKLSVDKSRWQRGDTFICAVMHEALHNHYTQES
LSHSPGK

Figure 3: SEQ ID NO:3 – Canine IgG HCB heavy chain

AKECECKCNCNNCPCPGCGLLGGPSVFIFPPKPKDILVTARTPTVT
CVVVDLDPENPEVQISWFVDSKQVQTANTQPREEQSNGTYRVVSVL
PIGHQDWLSGKQFKCKVNNKALPSPIEEIISKTPGQAHQPNVYVLP
PSRDEMSKNTVTLTCLVKDFFPPEIDVEWQSNGQQEPESKYRMTPP
QLDEDGSYFLYSKLSVDKSRWQRGDTFICAVMHEALHNHYTQISLS
HSPGK

Figure 4: SEQ ID NO:4 – Canine IgG HCC heavy chain

PKESTCKCISPCPVPESLGGPSVFIFPPKPKDILRITRTPEITCVV
LDLGREDPEVQISWFVDGKEVHTAKTQPREQQFNSTYRVVSVLPIE
HQDWLTGKEFKCRVNHIGLPSPIERTISKARGQAHQPSVYVLPPSP
KELSSSDTVTLTCLIKDFYPPEIDVEWQSNGQPEPESKYHTTAPQL
DEDGSYFLYSKLSVDKSRWQQGDTFTCAVMHEALQNHYTDLSLSHS
PGK

Figure 5: SEQ ID NO:5 – Canine IgG HCD heavy chain

MGLPTVPGLLLPLVLLALLLEIYPISVTALVPHPRNRVKRAILCPQ
GKYIHPQDDSICCTKCHKGTYLYNDCPGPGLDTDCRECENGTFTAS
ENHLRQCLSCSKCRKEMNQVEISPCTVYRDTVCGCRKNQYRFYWSE
TLFQCNNCSLCLNGTVQISCQEKQNTICTCHAGFFLREHECVSCVN
CKKNTECGKLCLPPVETVKVPQDPGSTFNECRCTDTPPCPVPEPLG
GPSVLIFPPKPKDILRITRTPEVTCVVLDLGREDPEVQISWFVDGK
EVHTAKTQSREQQFNGTYRVVSVLPIEHQDWLTGKEFKCRVNHIDL
PSPIERTISKARGRAHKPSVYVLPPSPKELSSSDTVSITCLIKDFY
PPDIDVEWQSNGQQEPERKHRMTPPQLDEDGSYFLYSKLSVDKSRW
QQGDPFTCAVMHETLQNHYTDLSLSHSPGK**

Figure 6: SEQ ID NO:6 – caTNFR:HCA Fc Fusion Polypeptide

MGLPTVPGLLLPLVLLALLLEIYPISVTALVPHPRNRVKRAILCPQ
GKYIHPQDDSICCTKCHKGTYLYNDCPGPGLDTDCRECENGTFTAS
ENHLRQCLSCSKCRKEMNQVEISPCTVYRDTVCGCRKNQYRFYWSE
TLFQCNNCSLCLNGTVQISCQEKQNTICTCHAGFFLREHECVSCVN
CKKNTECGKLCLPPVETVKVPQDPGSTPKRENGRVPRPPDCPKCPA
PEMLGGPSVFIFPPKPKDTLLIARTPEVTCVVVDLDPEDPEVQISW
FVDGKQMQTAKTQPREEQFNGTYRVVSVLPIGHQDWLKGKQFTCKV
NNKALPSPIERTISKARGQAHQPSVYVLPPSREELSKNTVSLTCLI
KDFYPPDIDVEWQSNGQQEPESKYRTTPPQLDEDGSYFLYSKLSVD
KSRWQRGDTFICAVMHEALHNHYTQESLSHSPGK**

Figure 7: SEQ ID NO:7 – caTNFR:HCB Fc Fusion Polypeptide

MGLPTVPGLLLPLVLLALLLEIYPISVTALVPHPRNRVKRAILCPQ
GKYIHPQDDSICCTKCHKGTYLYNDCPGPGLDTDCRECENGTFTAS
ENHLRQCLSCSKCRKEMNQVEISPCTVYRDTVCGCRKNQYRFYWSE
TLFQCNNCSLCLNGTVQISCQEKQNTICTCHAGFFLREHECVSCVN
CKKNTECGKLCLPPVETVKVPQDPGSTAKECECKCNCNNCPCPGCG
LLGGPSVFIFPPKPKDILVTARTPTVTCVVVDLDPENPEVQISWFV
DSKQVQTANTQPREEQSNGTYRVVSVLPIGHQDWLSGKQFKCKVNN
KALPSPIEEIISKTPGQAHQPNVYVLPPSRDEMSKNTVTLTCLVKD
FFPPEIDVEWQSNGQQEPESKYRMTPPQLDEDGSYFLYSKLSVDKS
RWQRGDTFICAVMHEALHNHYTQISLSHSPGK**

Figure 8: SEQ ID NO:8 – caTNFR:HCC Fc Fusion Polypeptide

MGLPTVPGLLLPLVLLALLLEIYPISVTALVPHPRNRVKRAILCPQ
GKYIHPQDDSICCTKCHKGTYLYNDCPGPGLDTDCRECENGTFTAS
ENHLRQCLSCSKCRKEMNQVEISPCTVYRDTVCGCRKNQYRFYWSE
TLFQCNNCSLCLNGTVQISCQEKQNTICTCHAGFFLREHECVSCVN
CKKNTECGKLCLPPVETVKVPQDPGSTPKESTCKCISPCPVPESLG
GPSVFIFPPKPKDILRITRTPEITCVVLDLGREDPEVQISWFVDGK
EVHTAKTQPREQQFNSTYRVVSVLPIEHQDWLTGKEFKCRVNHIGL
PSPIERTISKARGQAHQPSVYVLPPSPKELSSSDTVTLTCLIKDFY
PPEIDVEWQSNGQPEPESKYHTTAPQLDEDGSYFLYSKLSVDKSRW
QQGDTFTCAVMHEALQNHYTDLSLSHSPGK**

Figure 9: SEQ ID NO:9 – caTNFR:HCD Fc Fusion Polypeptide

MGLPTVPGLLLPLVLLALLLEIYPISVTALVPHPRNRVKRAILCPQ
GKYIHPQDDSICCTKCHKGTYLYNDCPGPGLDTDCRECENGTFTAS
ENHLRQCLSCSKCRKEMNQVEISPCTVYRDTVCGCRKNQYRFYWSE
TLFQCNNCSLCLNGTVQISCQEKQNTICTCHAGFFLREHECVSCVN
CKKNTECGKLCLPPVETVKVPQDPGSTFNECRCTDTPPCPVPEPLG
GPSVLIFPPKPKDILRITRTPEVTCVVLDLGREDPEVQISWFVDGK
EVHTAKTQSREQQF**A**GTYRVVSVLPIEHQDWLTGKEFKCRVNHIDL
PSPIERTISKARGRAHKPSVYVLPPSPKELSSSDTVSITCLIKDFY
PPDIDVEWQSNGQQEPERKHRMTPPQLDEDGSYFLYSKLSVDKSRW
QQGDPFTCAVMHETLQNHYTDLSLSHSPGK**

Figure 10: SEQ ID NO:10 – caTNFR:HCA Aglycosyl Fc Fusion Polypeptide

MGLPTVPGLLLPLVLLALLLEIYPISVTALVPHPRNRVKRAILCPQ
GKYIHPQDDSICCTKCHKGTYLYNDCPGPGLDTDCRECENGTFTAS
ENHLRQCLSCSKCRKEMNQVEISPCTVYRDTVCGCRKNQYRFYWSE
TLFQCNNCSLCLNGTVQISCQEKQNTICTCHAGFFLREHECVSCVN
CKKNTECGKLCLPPVETVKVPQDPGSTPKRENGRVPRPPDCPKCPA
PEMLGGPSVFIFPPKPKDTLLIARTPEVTCVVVDLDPEDPEVQISW
FVDGKQMQTAKTQPREEQF**A**GTYRVVSVLPIGHQDWLKGKQFTCKV
NNKALPSPIERTISKARGQAHQPSVYVLPPSREELSKNTVSLTCLI
KDFYPPDIDVEWQSNGQQEPESKYRTTPPQLDEDGSYFLYSKLSVD
KSRWQRGDTFICAVMHEALHNHYTQESLSHSPGK**

Figure 11: SEQ ID NO:11 – caTNFR:HCB Aglycosyl Fc Fusion Polypeptide

MGLPTVPGLLLPLVLLALLLEIYPISVTALVPHPRNRVKRAILCPQ
GKYIHPQDDSICCTKCHKGTYLYNDCPGPGLDTDCRECENGTFTAS
ENHLRQCLSCSKCRKEMNQVEISPCTVYRDTVCGCRKNQYRFYWSE
TLFQCNNCSLCLNGTVQISCQEKQNTICTCHAGFFLREHECVSCVN
CKKNTECGKLCLPPVETVKVPQDPGSTAKECECKCNCNNCPCPGCG
LLGGPSVFIFPPKPKDILVTARTPTVTCVVVDLDPENPEVQISWFV
DSKQVQTANTQPREEQS**A**GTYRVVSVLPIGHQDWLSGKQFKCKVNN
KALPSPIEEIISKTPGQAHQPNVYVLPPSRDEMSKNTVTLTCLVKD
FFPPEIDVEWQSNGQQEPESKYRMTPPQLDEDGSYFLYSKLSVDKS
RWQRGDTFICAVMHEALHNHYTQISLSHSPGK**

Figure 12: SEQ ID NO:12 – caTNFR:HCC Aglycosyl Fc Fusion Polypeptide

MGLPTVPGLLLPLVLLALLLEIYPISVTALVPHPRNRVKRAILCPQ
GKYIHPQDDSICCTKCHKGTYLYNDCPGPGLDTDCRECENGTFTAS
ENHLRQCLSCSKCRKEMNQVEISPCTVYRDTVCGCRKNQYRFYWSE
TLFQCNNCSLCLNGTVQISCQEKQNTICTCHAGFFLREHECVSCVN
CKKNTECGKLCLPPVETVKVPQDPGSTPKESTCKCISPCPVPESLG
GPSVFIFPPKPKDILRITRTPEITCVVLDLGREDPEVQISWFVDGK
EVHTAKTQPREQQF**A**STYRVVSVLPIEHQDWLTGKEFKCRVNHIGL
PSPIERTISKARGQAHQPSVYVLPPSPKELSSSDTVTLTCLIKDFY
PPEIDVEWQSNGQPEPESKYHTTAPQLDEDGSYFLYSKLSVDKSRW
QQGDTFTCAVMHEALQNHYTDLSLSHSPGK**

Figure 13: SEQ ID NO:13 – caTNFR:HCD Aglycosyl Fc Fusion Polypeptide

MAPAALWALLAAGLQLWGAGRAVPGQATQLPYVPDPELGSSCQQSE
YFDQRTQMCCSMCPPGSHARLFCTKTSNTVCARCENSTYTQLWNWV
PECLSCGSRCGADQVETQACTREQNRICSCKSGWYCTLRRQGGCRL
CAPLRRCRPGFGVAKPGTATSDVVCAPCAPGTFSNTTSSTDTCRPH
RICSSVAVPGNASVDAVCSPAPPTVRTAPRPASTRQPGSTQPRPAE
PTPGPSTPPRTSVLFPAVPSPPAEGLSTGD

Figure 14: SEQ ID NO:14 – Canine TNFR p80 signal sequence and ECD

MAPAALWALLAAGLQLWGAGRAVPGQATQLPYVPDPELGSSCQQSE
YFDQRTQMCCSMCPPGSHARLFCTKTSNTVCARCENSTYTQLWNWV
PECLSCGSRCGADQVETQACTREQNRICSCKSGWYCTLRRQGGCRL
CAPLRRCRPGFGVAKPGTATSDVVCAPCAPGTFSNTTSSTDTCRPH
RICSSVAVPGNASVDAVCSPAPPTVRTAPRPASTRQPGSTQPRPAE
PTPGPSTPPRTSVLFPAVPSPPAEGLSTGDFNECRCTDTPPCPVPE
PLGGPSVLIFPPKPKDILRITRTPEVTCVVLDLGREDPEVQISWFV
DGKEVHTAKTQSREQQFNGTYRVVSVLPIEHQDWLTGKEFKCRVNH
IDLPSPIERTISKARGRAHKPSVYVLPPSPKELSSSDTVSITCLIK
DFYPPDIDVEWQSNGQQEPERKHRMTPPQLDEDGSYFLYSKLSVDK
SRWQQGDPFTCAVMHETLQNHYTDLSLSHSPGK**

Figure 15: SEQ ID NO:15 – caTNFrecp80-HCA Fusion Polypeptide

MAPAALWALLAAGLQLWGAGRAVPGQATQLPYVPDPELGSSCQQSE
YFDQRTQMCCSMCPPGSHARLFCTKTSNTVCARCENSTYTQLWNWV
PECLSCGSRCGADQVETQACTREQNRICSCKSGWYCTLRRQGGCRL
CAPLRRCRPGFGVAKPGTATSDVVCAPCAPGTFSNTTSSTDTCRPH
RICSSVAVPGNASVDAVCSPAPPTVRTAPRPASTRQPGSTQPRPAE
PTPGPSTPPRTSVLFPAVPSPPAEGLSTGDPKRENGRVPRPPDCPK
CPAPEMLGGPSVFIFPPKPKDTLLIARTPEVTCVVVDLDPEDPEVQ
ISWFVDGKQMQTAKTQPREEQFNGTYRVVSVLPIGHQDWLKGKQFT
CKVNNKALPSPIERTISKARGQAHQPSVYVLPPSREELSKNTVSLT
CLIKDFYPPDIDVEWQSNGQQEPESKYRTTPPQLDEDGSYFLYSKL
SVDKSRWQRGDTFICAVMHEALHNHYTQESLSHSPGK**

Figure 16: SEQ ID NO:16 – caTNFrecp80-HCB Fusion Polypeptide

MAPAALWALLAAGLQLWGAGRAVPGQATQLPYVPDPELGSSCQQSE
YFDQRTQMCCSMCPPGSHARLFCTKTSNTVCARCENSTYTQLWNWV
PECLSCGSRCGADQVETQACTREQNRICSCKSGWYCTLRRQGGCRL
CAPLRRCRPGFGVAKPGTATSDVVCAPCAPGTFSNTTSSTDTCRPH
RICSSVAVPGNASVDAVCSPAPPTVRTAPRPASTRQPGSTQPRPAE
PTPGPSTPPRTSVLFPAVPSPPAEGLSTGDAKECECKCNCNNCPCP
GCGLLGGPSVFIFPPKPKDILVTARTPTVTCVVVDLDPENPEVQIS
WFVDSKQVQTANTQPREEQSNGTYRVVSVLPIGHQDWLSGKQFKCK
VNNKALPSPIEEIISKTPGQAHQPNVYVLPPSRDEMSKNTVTLTCL
VKDFFPPEIDVEWQSNGQQEPESKYRMTPPQLDEDGSYFLYSKLSV
DKSRWQRGDTFICAVMHEALHNHYTQISLSHSPGK**

Figure 17: SEQ ID NO:17 – caTNFrecp80-HCC Fc Fusion Polypeptide

MAPAALWALLAAGLQLWGAGRAVPGQATQLPYVPDPELGSSCQQSE
YFDQRTQMCCSMCPPGSHARLFCTKTSNTVCARCENSTYTQLWNWV
PECLSCGSRCGADQVETQACTREQNRICSCKSGWYCTLRRQGGCRL
CAPLRRCRPGFGVAKPGTATSDVVCAPCAPGTFSNTTSSTDTCRPH
RICSSVAVPGNASVDAVCSPAPPTVRTAPRPASTRQPGSTQPRPAE
PTPGPSTPPRTSVLFPAVPSPPAEGLSTGDPKESTCKCISPCPVPE
SLGGPSVFIFPPKPKDILRITRTPEITCVVLDLGREDPEVQISWFV
DGKEVHTAKTQPREQQFNSTYRVVSVLPIEHQDWLTGKEFKCRVNH
IGLPSPIERTISKARGQAHQPSVYVLPPSPKELSSSDTVTLTCLIK
DFYPPEIDVEWQSNGQPEPESKYHTTAPQLDEDGSYFLYSKLSVDK
SRWQQGDTFTCAVMHEALQNHYTDLSLSHSPGK**

Figure 18: SEQ ID NO:18 – caTNFrecp80-HCD Fc Fusion Polypeptide

MAPAALWALLAAGLQLWGAGRAVPGQATQLPYVPDPELGSSCQQSE
YFDQRTQMCCSMCPPGSHARLFCTKTSNTVCARCENSTYTQLWNWV
PECLSCGSRCGADQVETQACTREQNRICSCKSGWYCTLRRQGGCRL
CAPLRRCRPGFGVAKPGTATSDVVCAPCAPGTFSNTTSSTDTCRPH
RICSSVAVPGNASVDAVCSPAPPTVRTAPRPASTRQPGSTQPRPAE
PTPGPSTPPRTSVLFPAVPSPPAEGLSTGDFNECRCTDTPPCPVPE
PLGGPSVLIFPPKPKDILRITRTPEVTCVVLDLGREDPEVQISWFV
DGKEVHTAKTQSREQQF**A**GTYRVVSVLPIEHQDWLTGKEFKCRVNH
IDLPSPIERTISKARGRAHKPSVYVLPPSPKELSSSDTVSITCLIK
DFYPPDIDVEWQSNGQQEPERKHRMTPPQLDEDGSYFLYSKLSVDK
SRWQQGDPFTCAVMHETLQNHYTDLSLSHSPGK**

Figure 19: SEQ ID NO:19 – caTNFrecp80-aglycosyl HCA Fc Fusion Polypeptide

MAPAALWALLAAGLQLWGAGRAVPGQATQLPYVPDPELGSSCQQSE
YFDQRTQMCCSMCPPGSHARLFCTKTSNTVCARCENSTYTQLWNWV
PECLSCGSRCGADQVETQACTREQNRICSCKSGWYCTLRRQGGCRL
CAPLRRCRPGFGVAKPGTATSDVVCAPCAPGTFSNTTSSTDTCRPH
RICSSVAVPGNASVDAVCSPAPPTVRTAPRPASTRQPGSTQPRPAE
PTPGPSTPPRTSVLFPAVPSPPAEGLSTGDPKRENGRVPRPPDCPK
CPAPEMLGGPSVFIFPPKPKDTLLIARTPEVTCVVVDLDPEDPEVQ
ISWFVDGKQMQTAKTQPREEQF**A**GTYRVVSVLPIGHQDWLKGKQFT
CKVNNKALPSPIERTISKARGQAHQPSVYVLPPSREELSKNTVSLT
CLIKDFYPPDIDVEWQSNGQQEPESKYRTTPPQLDEDGSYFLYSKL
SVDKSRWQRGDTFICAVMHEALHNHYTQESLSHSPGK**

Figure 20: SEQ ID NO:20 – caTNFrecp80-aglycosyl HCB Fc Fusion Polypeptide

MAPAALWALLAAGLQLWGAGRAVPGQATQLPYVPDPELGSSCQQSE
YFDQRTQMCCSMCPPGSHARLFCTKTSNTVCARCENSTYTQLWNWV
PECLSCGSRCGADQVETQACTREQNRICSCKSGWYCTLRRQGGCRL
CAPLRRCRPGFGVAKPGTATSDVVCAPCAPGTFSNTTSSTDTCRPH
RICSSVAVPGNASVDAVCSPAPPTVRTAPRPASTRQPGSTQPRPAE
PTPGPSTPPRTSVLFPAVPSPPAEGLSTGDAKECECKCNCNNCPCP
GCGLLGGPSVFIFPPKPKDILVTARTPTVTCVVVDLDPENPEVQIS
WFVDSKQVQTANTQPREEQS**A**GTYRVVSVLPIGHQDWLSGKQFKCK
VNNKALPSPIEEIISKTPGQAHQPNVYVLPPSRDEMSKNTVTLTCL
VKDFFPPEIDVEWQSNGQQEPESKYRMTPPQLDEDGSYFLYSKLSV
DKSRWQRGDTFICAVMHEALHNHYTQISLSHSPGK**

Figure 21: SEQ ID NO:21 – caTNFrecp80-aglycosyl HCC Fc Fusion Polypeptide

MAPAALWALLAAGLQLWGAGRAVPGQATQLPYVPDPELGSSCQQSE
YFDQRTQMCCSMCPPGSHARLFCTKTSNTVCARCENSTYTQLWNWV
PECLSCGSRCGADQVETQACTREQNRICSCKSGWYCTLRRQGGCRL
CAPLRRCRPGFGVAKPGTATSDVVCAPCAPGTFSNTTSSTDTCRPH
RICSSVAVPGNASVDAVCSPAPPTVRTAPRPASTRQPGSTQPRPAE
PTPGPSTPPRTSVLFPAVPSPPAEGLSTGDPKESTCKCISPCPVPE
SLGGPSVFIFPPKPKDILRITRTPEITCVVLDLGREDPEVQISWFV
DGKEVHTAKTQPREQQF**A**STYRVVSVLPIEHQDWLTGKEFKCRVNH
IGLPSPIERTISKARGQAHQPSVYVLPPSPKELSSSDTVTLTCLIK
DFYPPEIDVEWQSNGQPEPESKYHTTAPQLDEDGSYFLYSKLSVDK
SRWQQGDTFTCAVMHEALQNHYTDLSLSHSPGK**

Figure 22: SEQ ID NO:22 –caTNFrecp80-aglycosyl HCD Fc Fusion Polypeptide

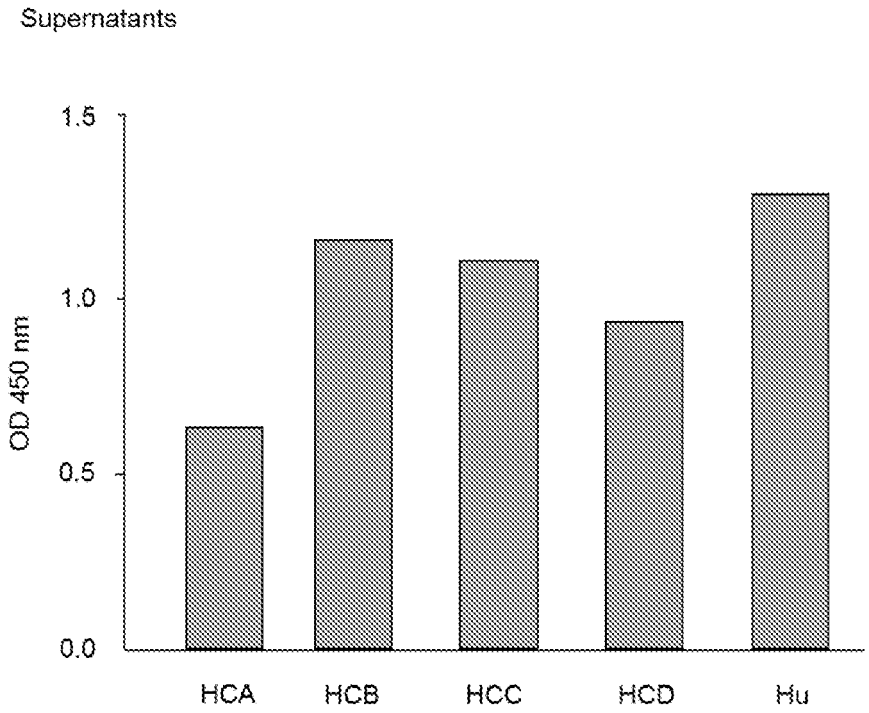


Figure 23

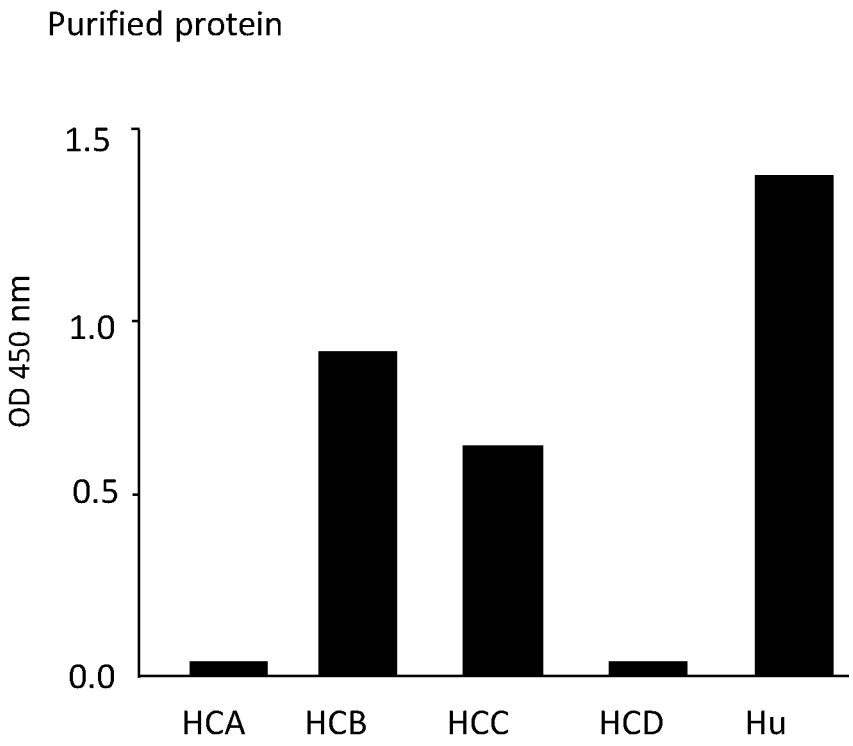


Figure 24

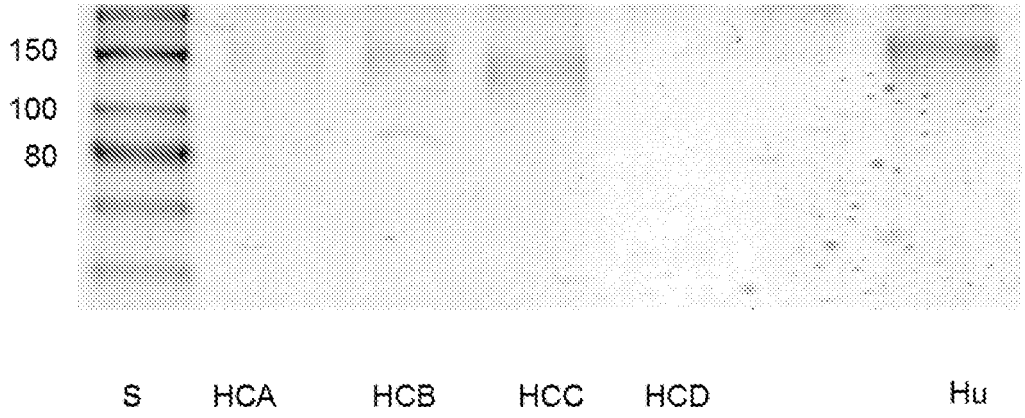


Figure 25

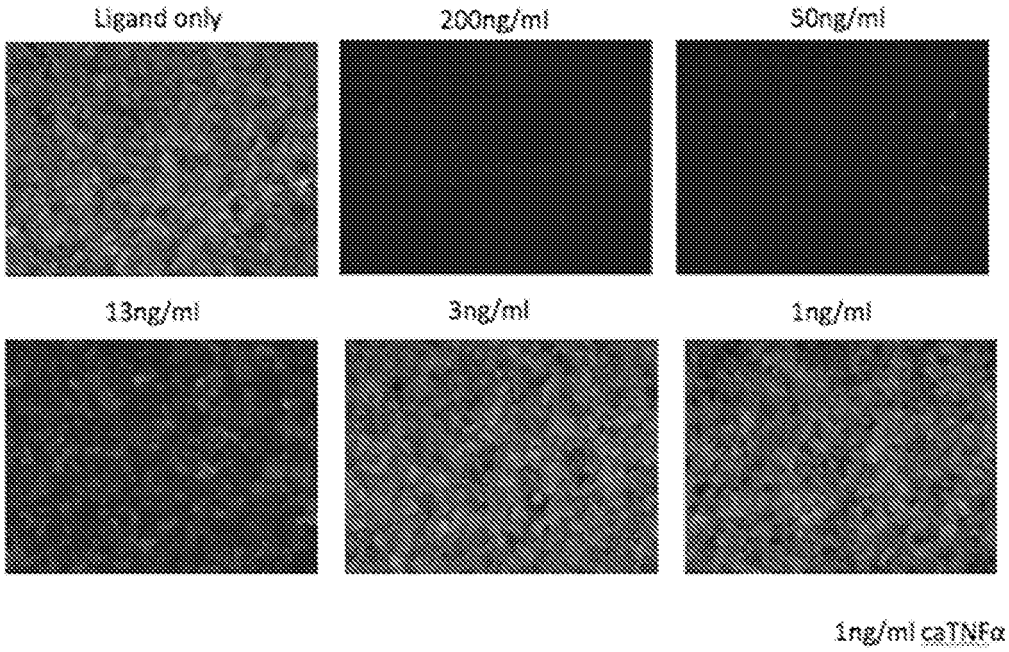

Ligand only
200ng/ml
50ng/ml
13ng/ml
3ng/ml
1ng/ml
1ng/ml caTNFα

Figure 26

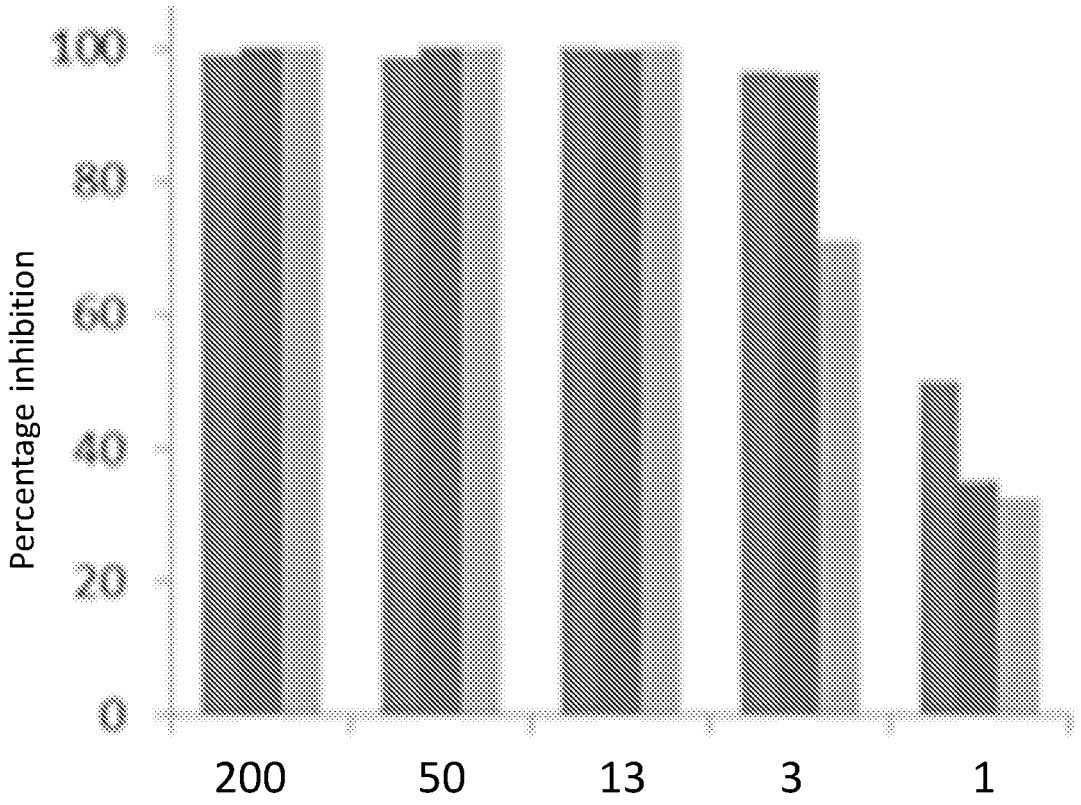


Figure 27

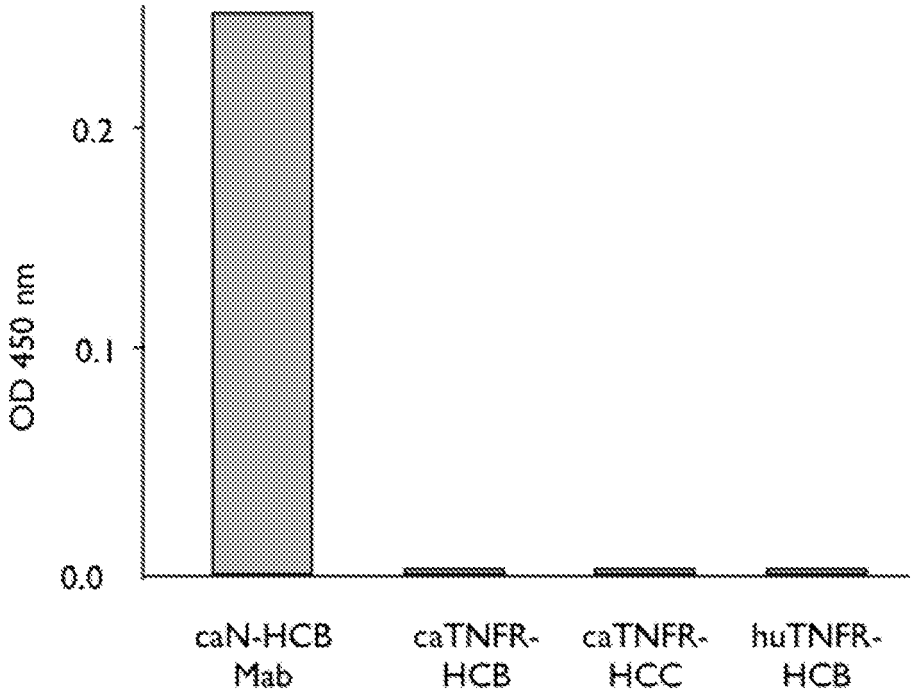
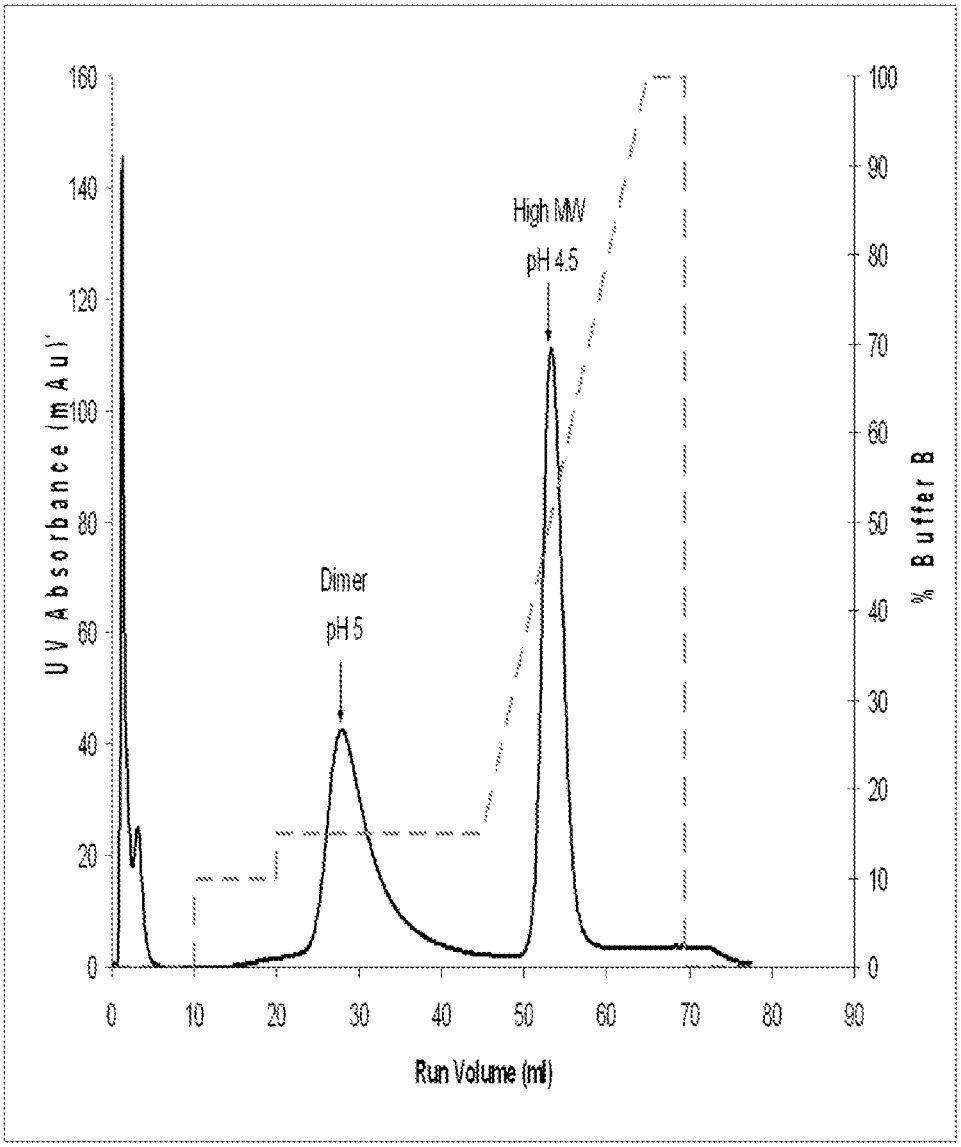


Figure 28



Dimer 25-45 mls
High MW 50-60 mls

Figure 29A

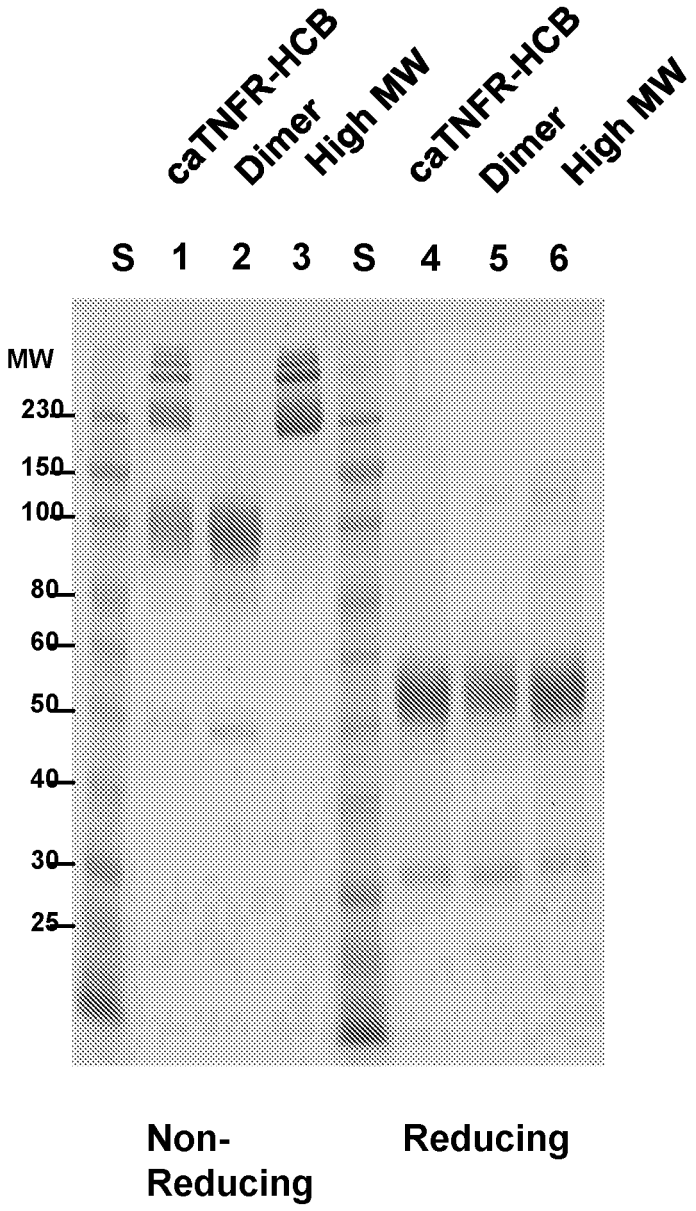

caTNFR-HCB Dimer
High MW
caTNFR-HCB Dimer
High MW
S 1 2 3 S 4 5 6
MW
230
150
100
80
60
50
40
30
25
Non-Reducing
Reducing

Figure 29B

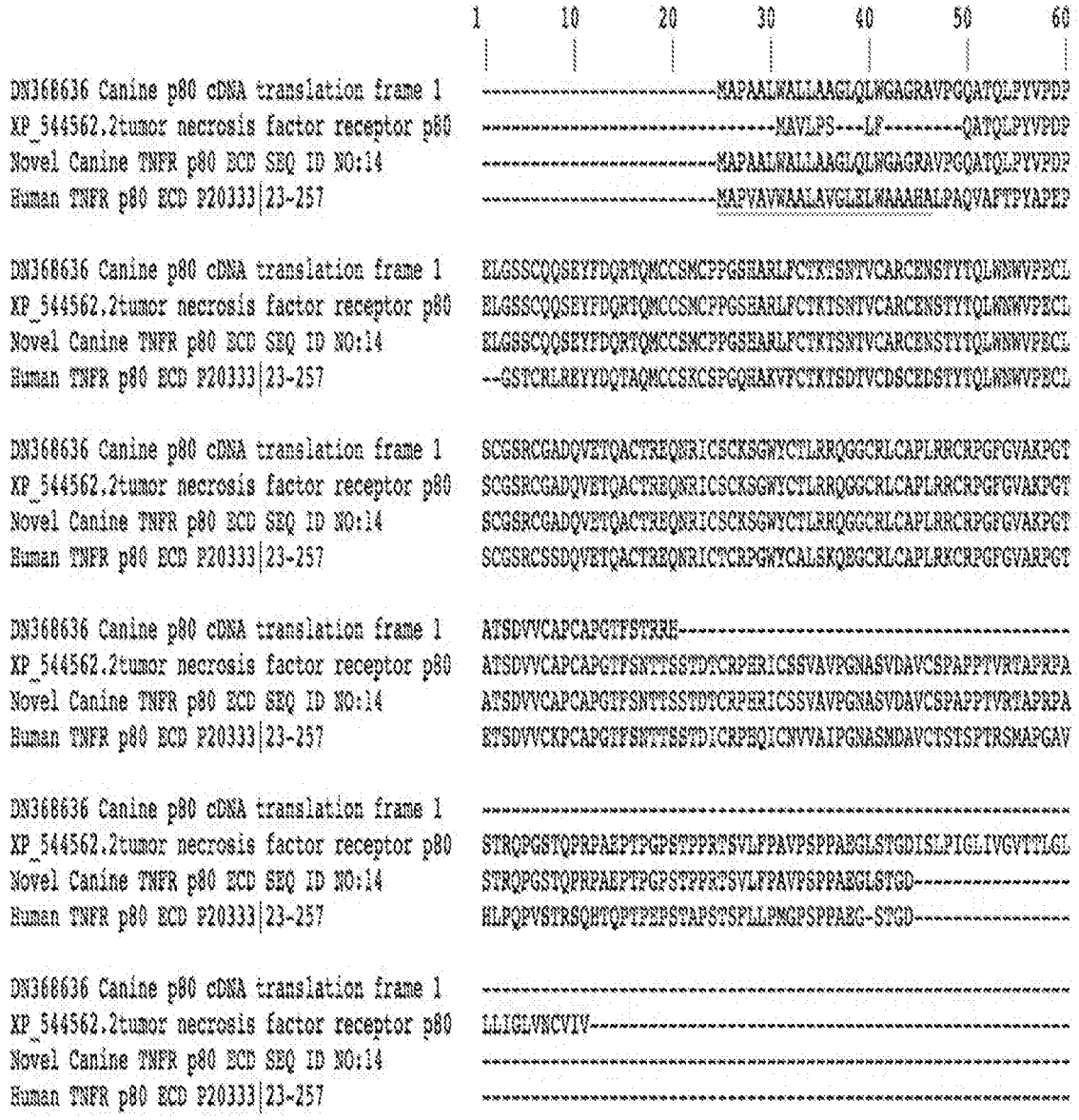

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DN368636 Canine p80 cDNA translation frame 1
XP_544562.2tumor necrosis factor receptor p80
Novel Canine TNFR p80 ECD SEQ ID NO:14
Human TNFR p80 ECD P20333|23-257

Figure 30