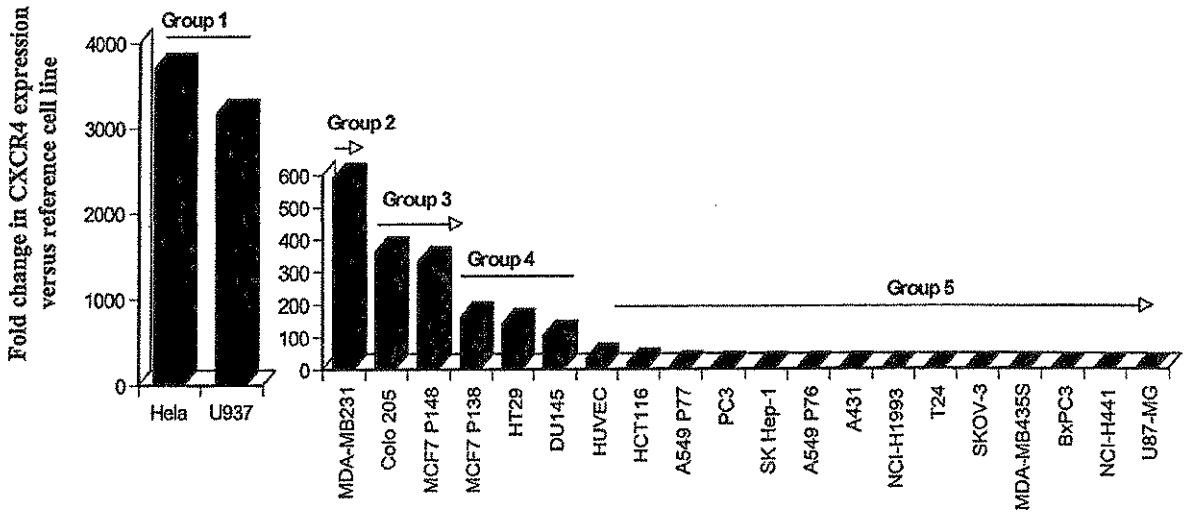


FIGURE 1A

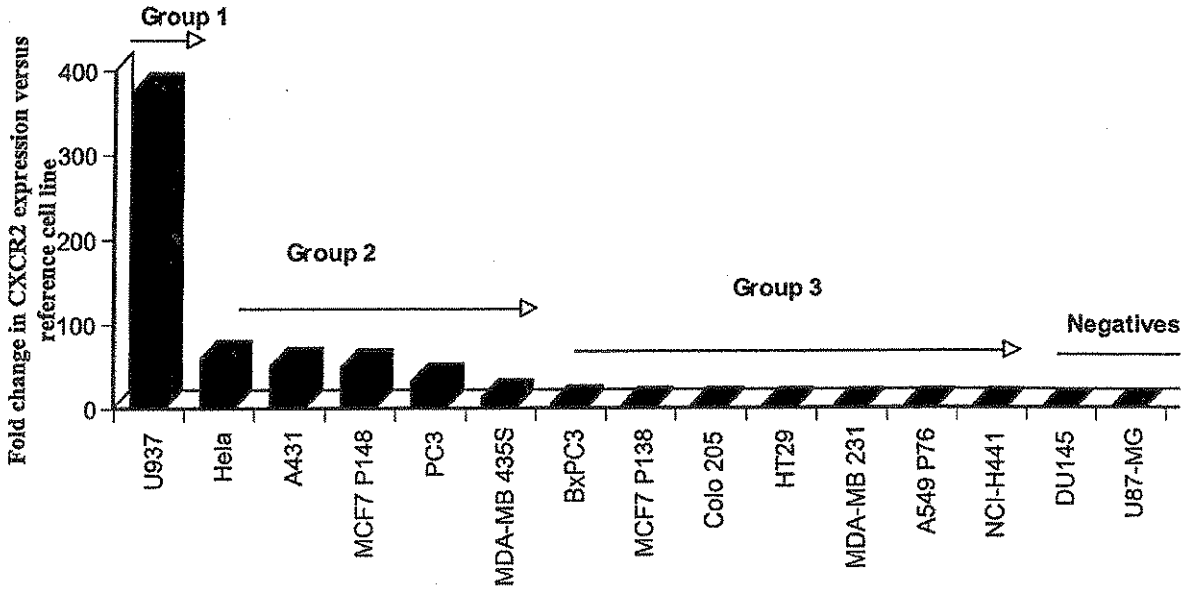


FIGURE 1B

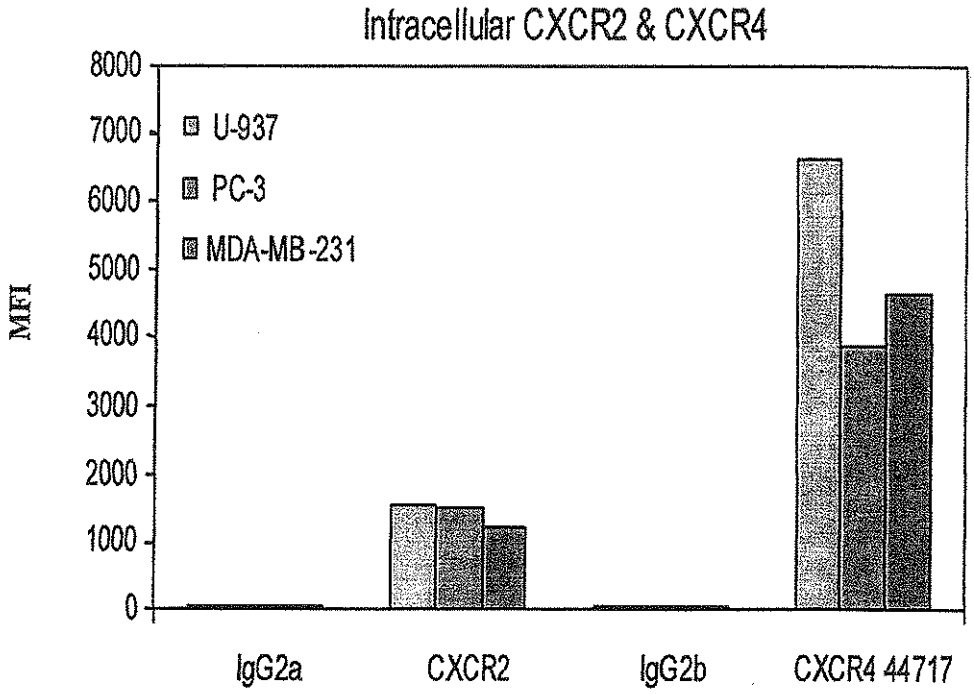

Intracellular CXCR2 & CXCR4
MFI
8000
7000
6000
5000
4000
3000
2000
1000
0
U-937
PC-3
MDA-MB-231
IgG2a
CXCR2
IgG2b
CXCR4 44717

FIGURE 2

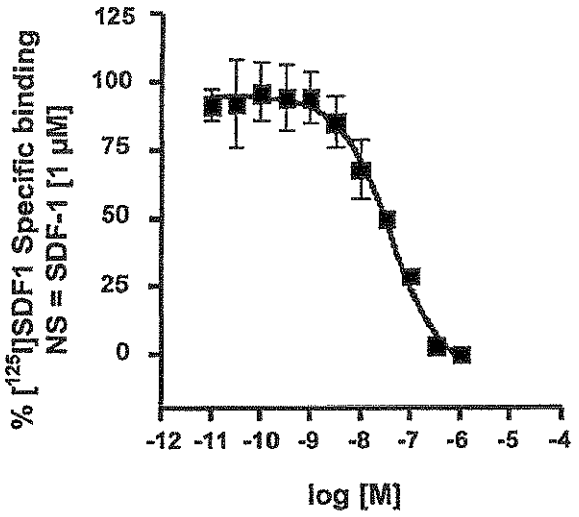


FIGURE 3A

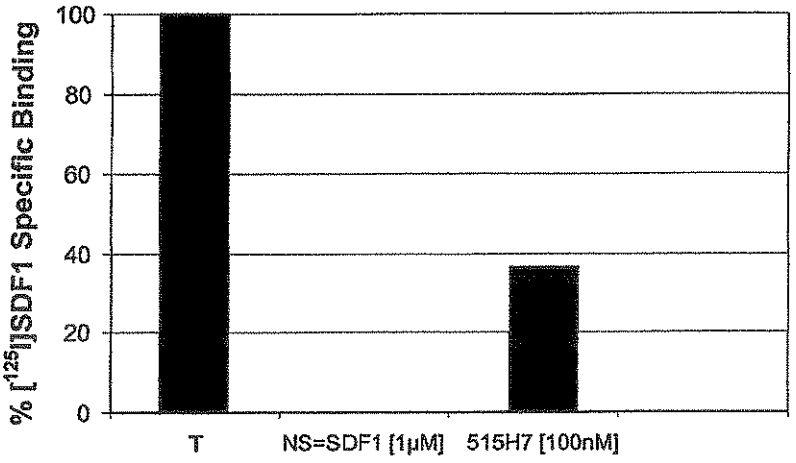


FIGURE 3B

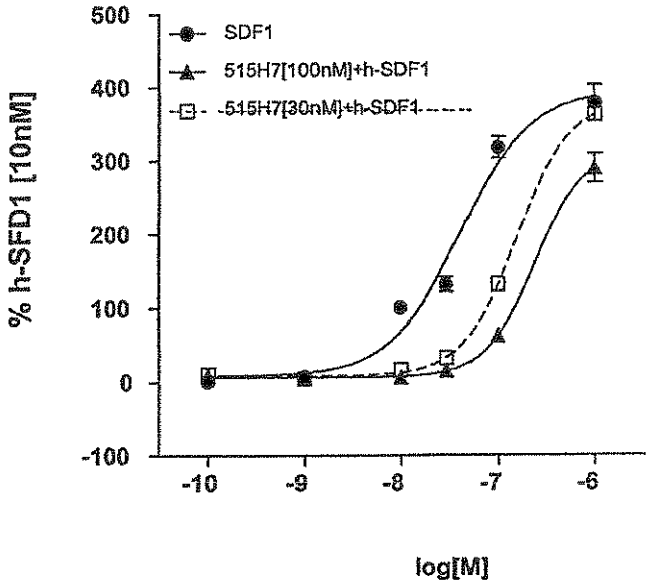


FIGURE 4

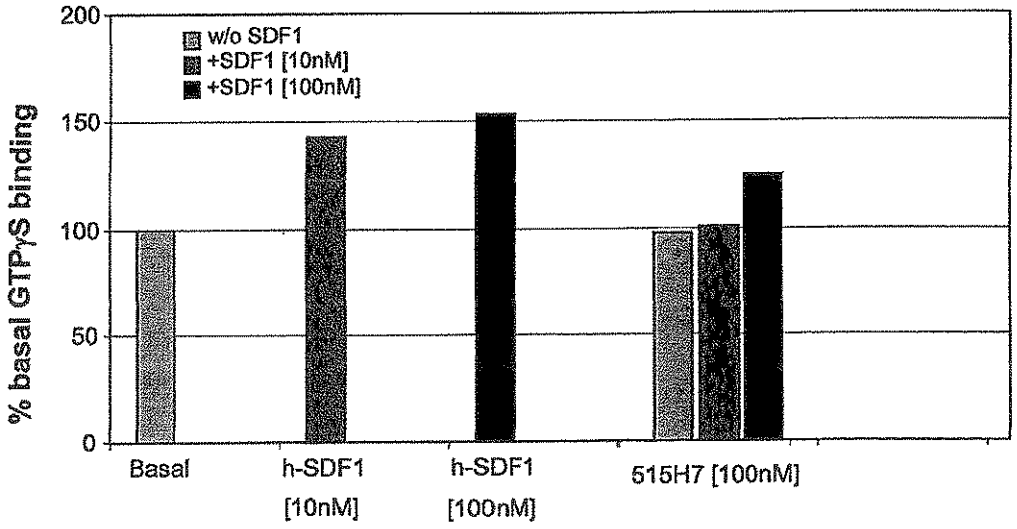


FIGURE 5

FIGURE 6A

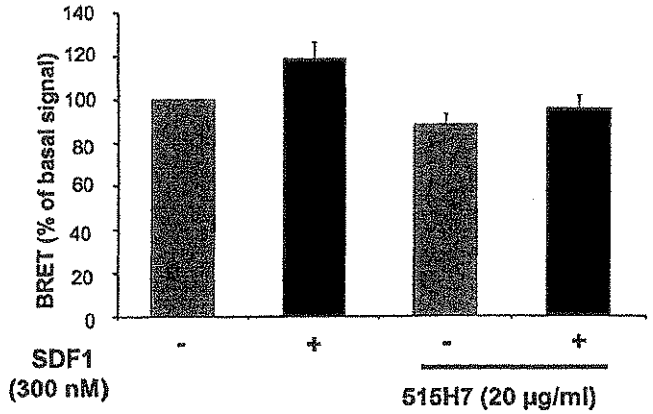


FIGURE 6B

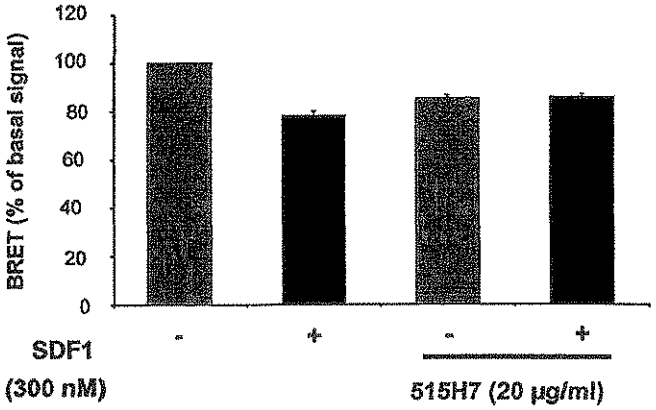
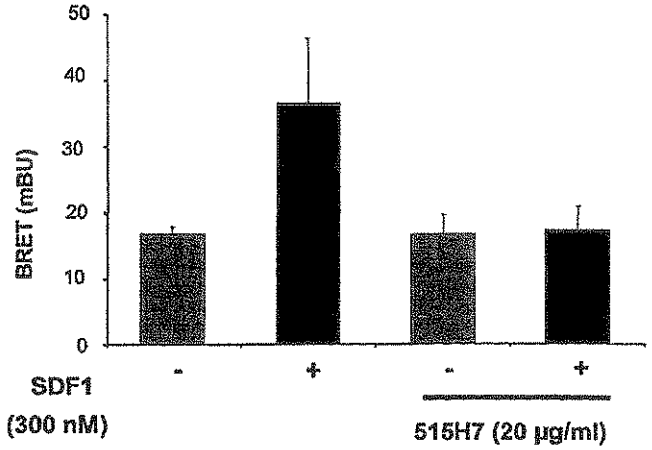


FIGURE 6C



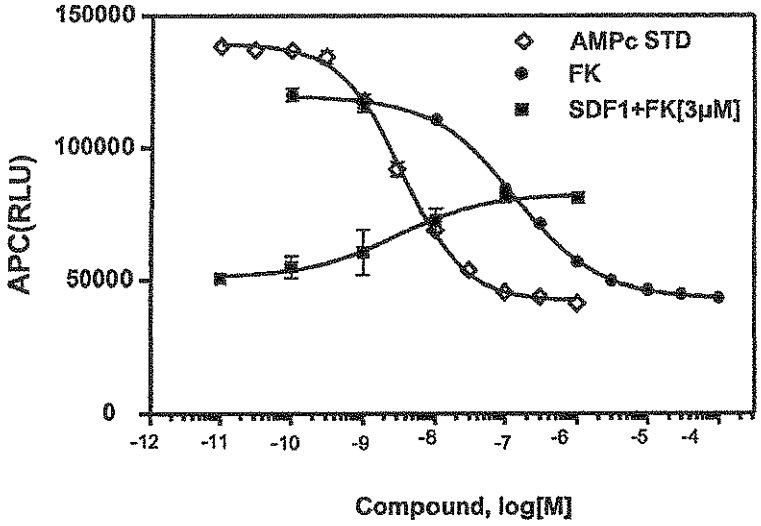


FIGURE 7A

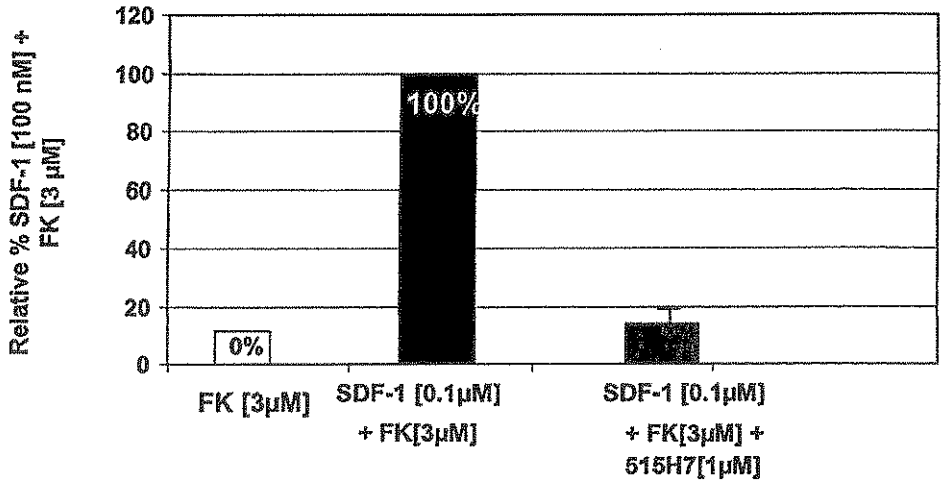


FIGURE 7B

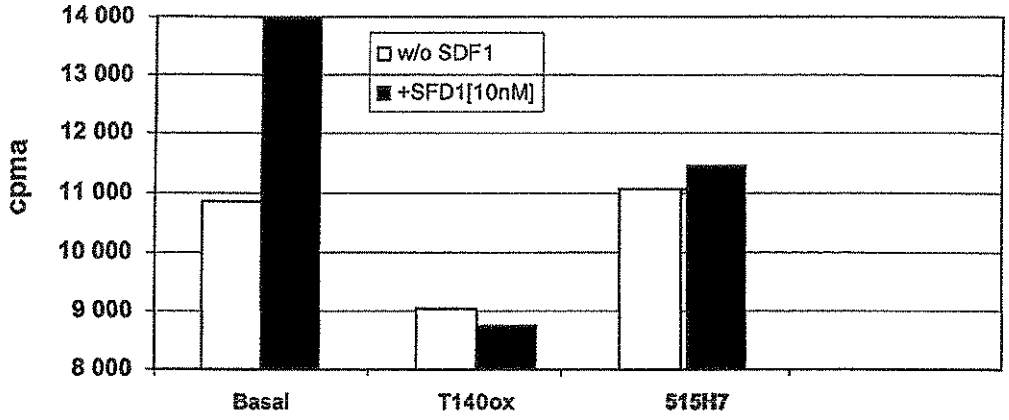


FIGURE 8

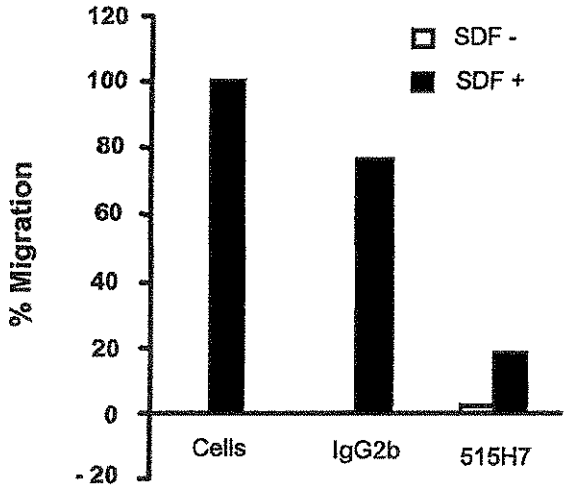


FIGURE 9

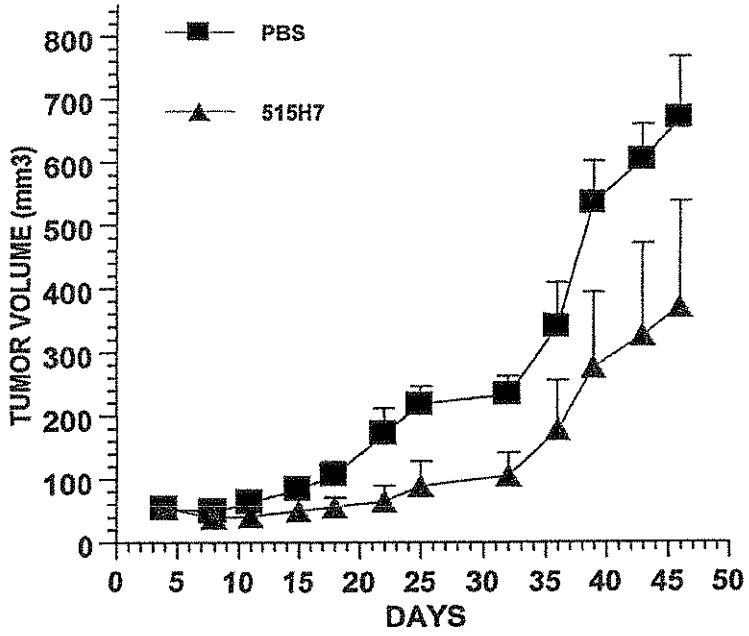


FIGURE 10

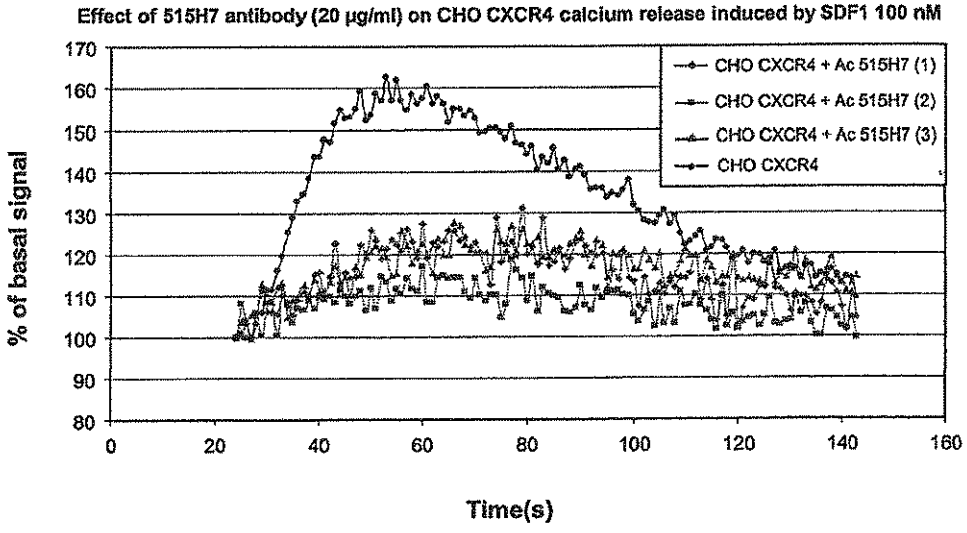


FIGURE 11A

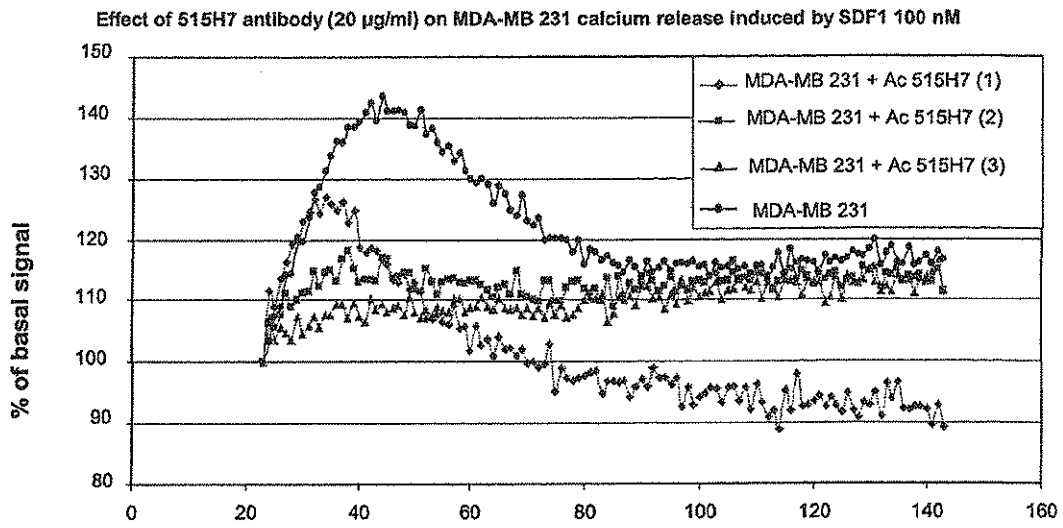


FIGURE 11B

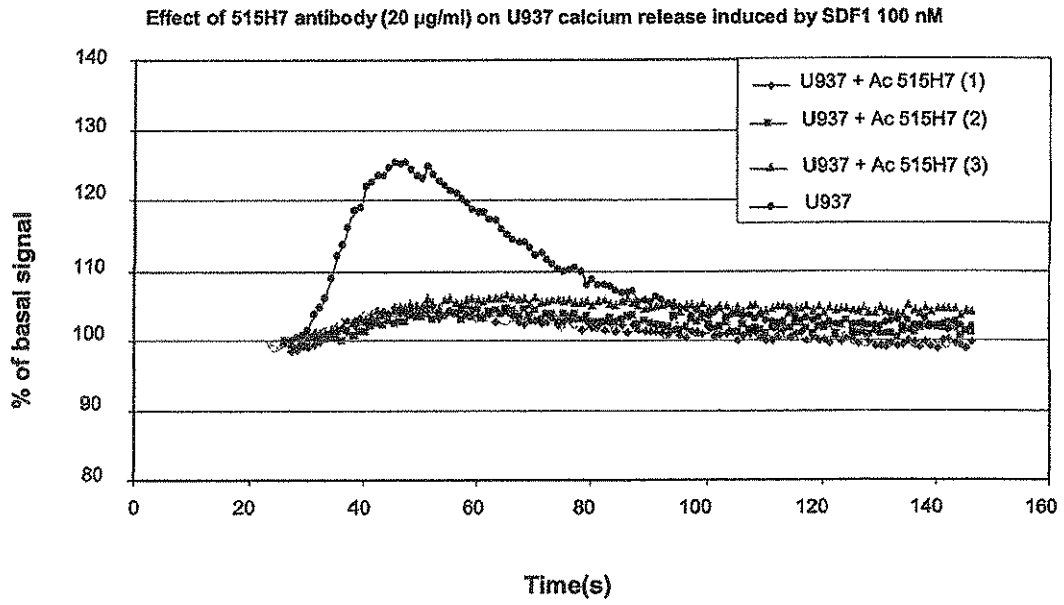


FIGURE 11C

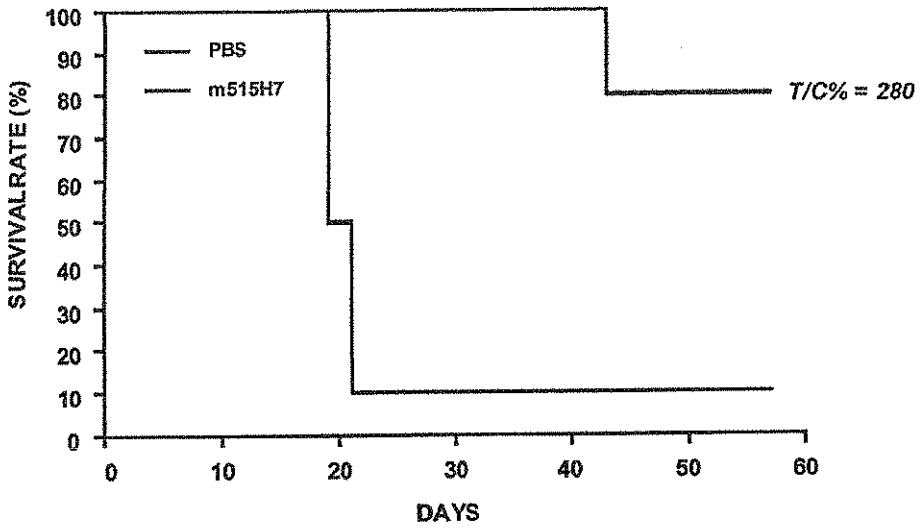


FIGURE 12

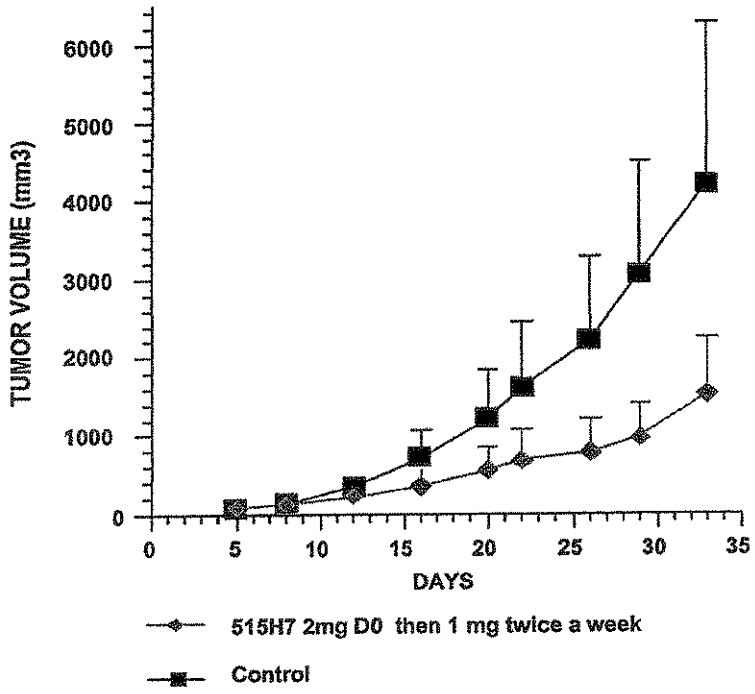


FIGURE 13

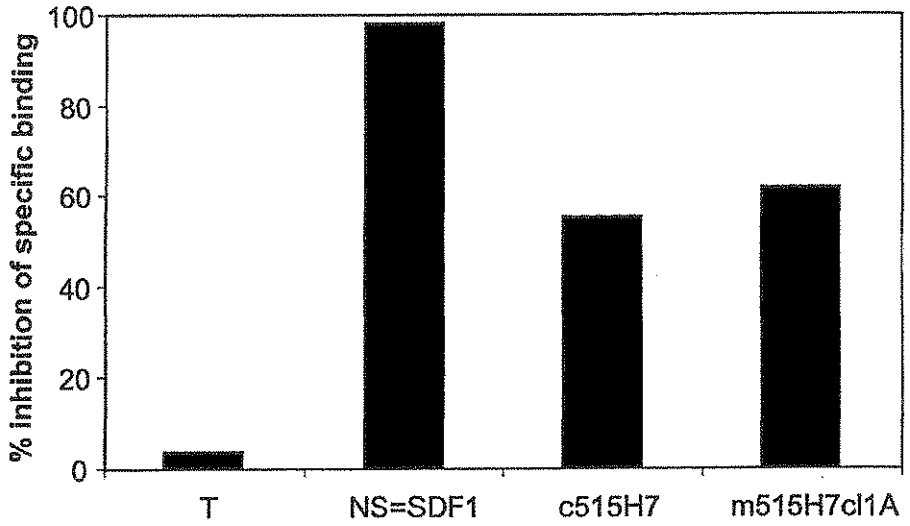


FIGURE 14

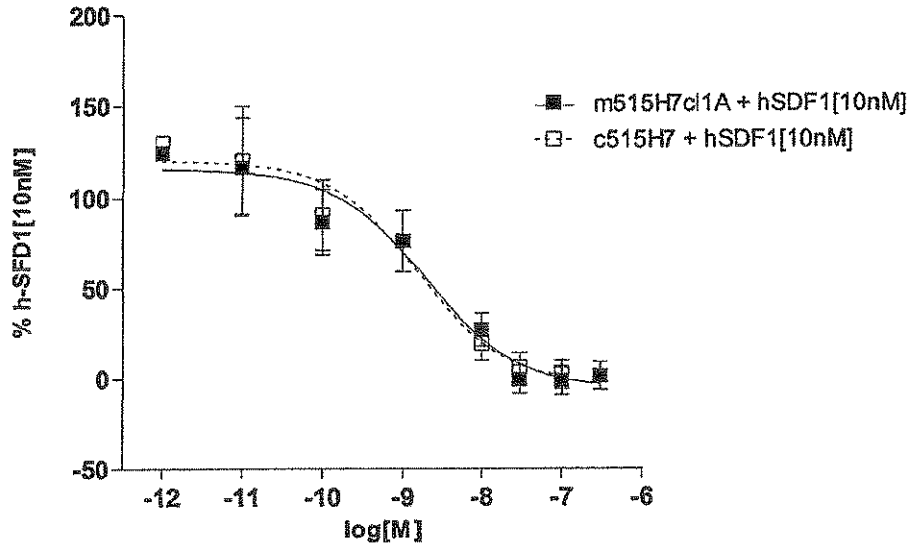


FIGURE 15

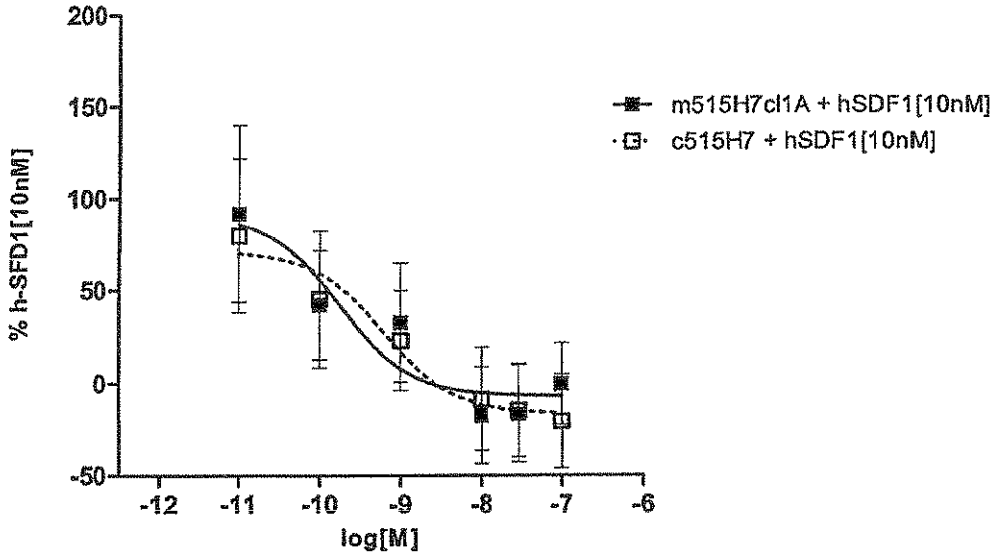


FIGURE 16

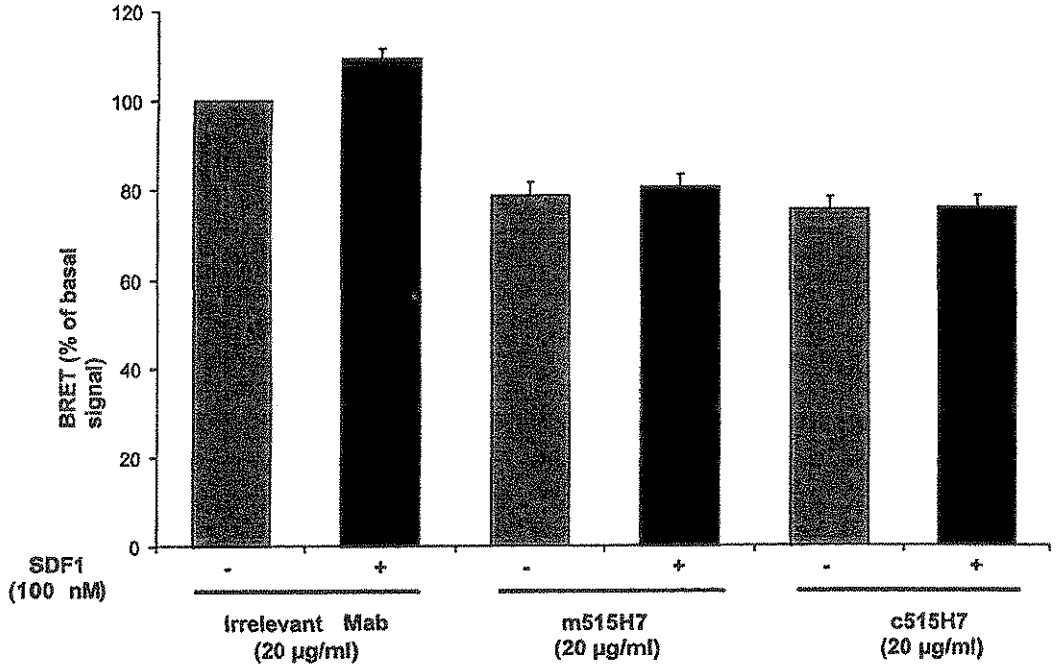


FIGURE 17A

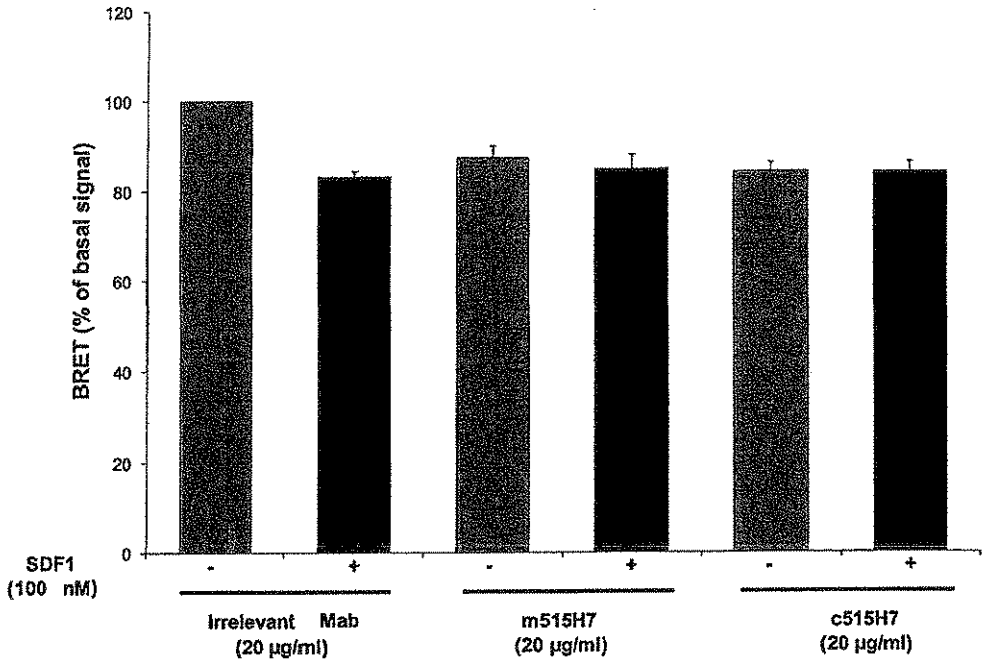


FIGURE 17B

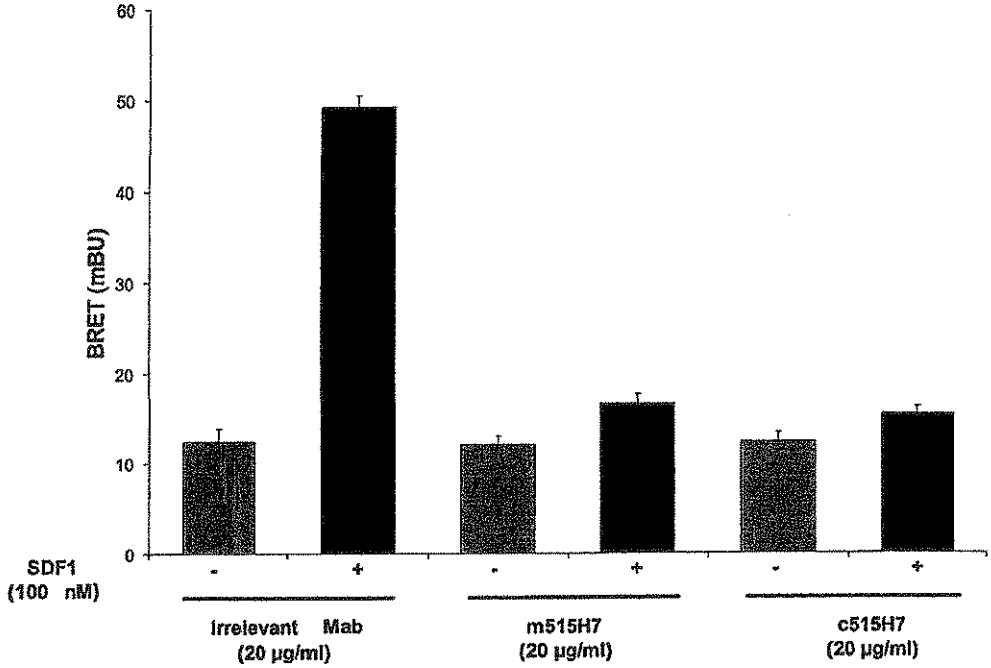


FIGURE 17C

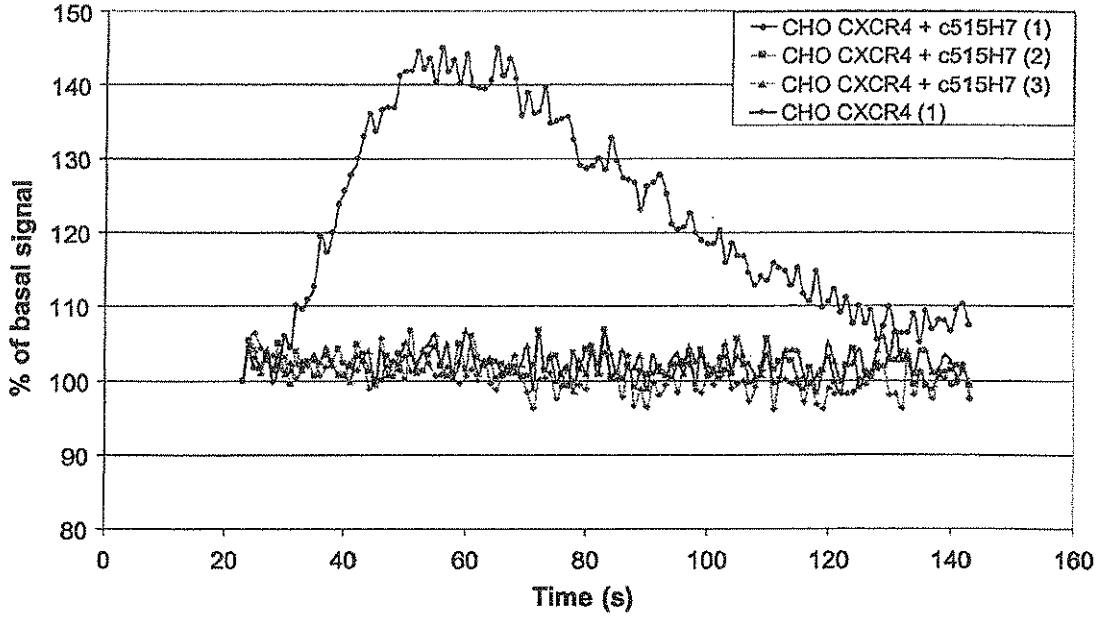


FIGURE 18A

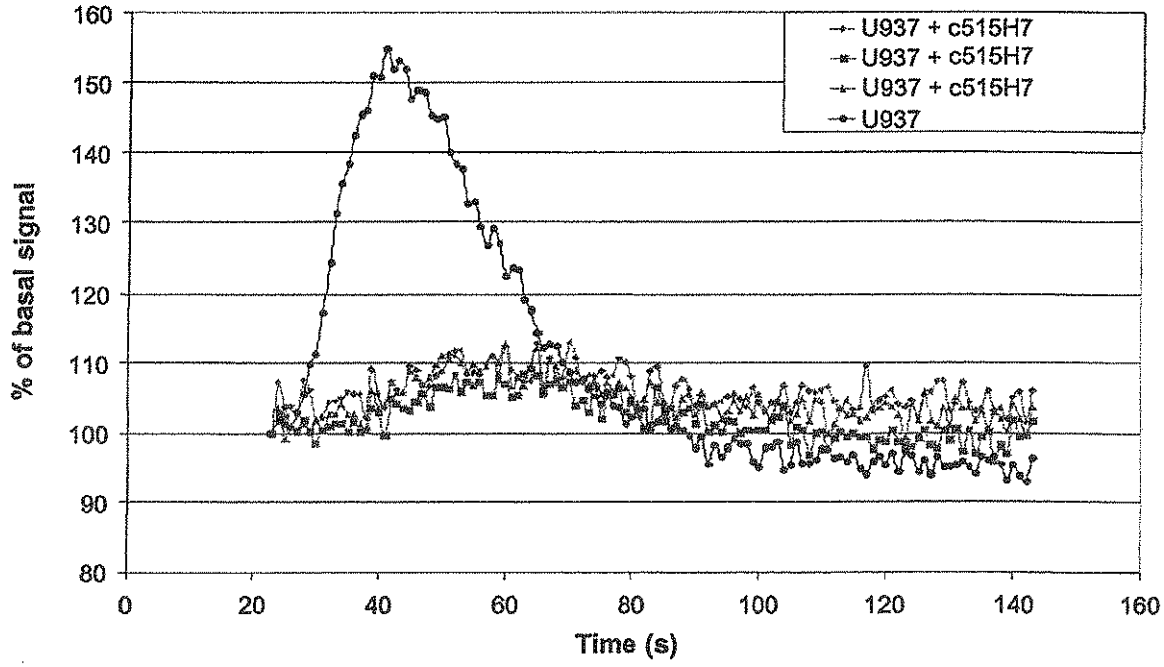


FIGURE 18B

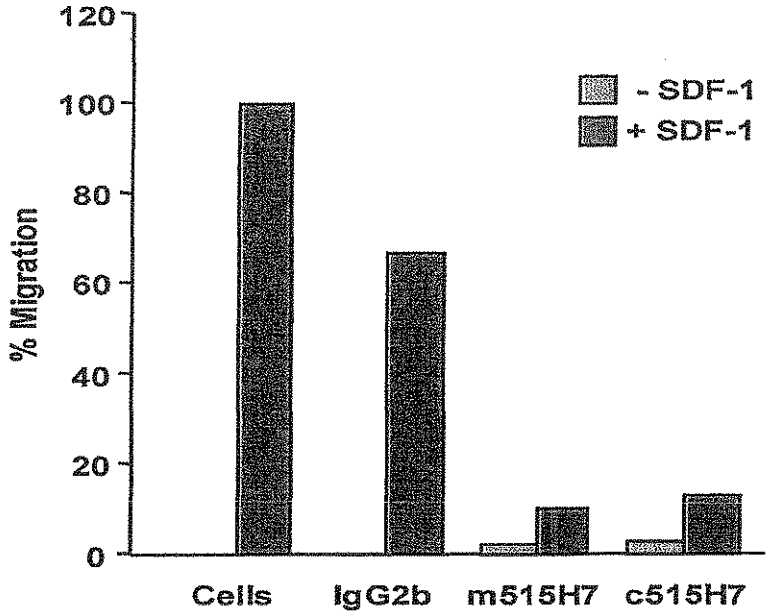


FIGURE 19

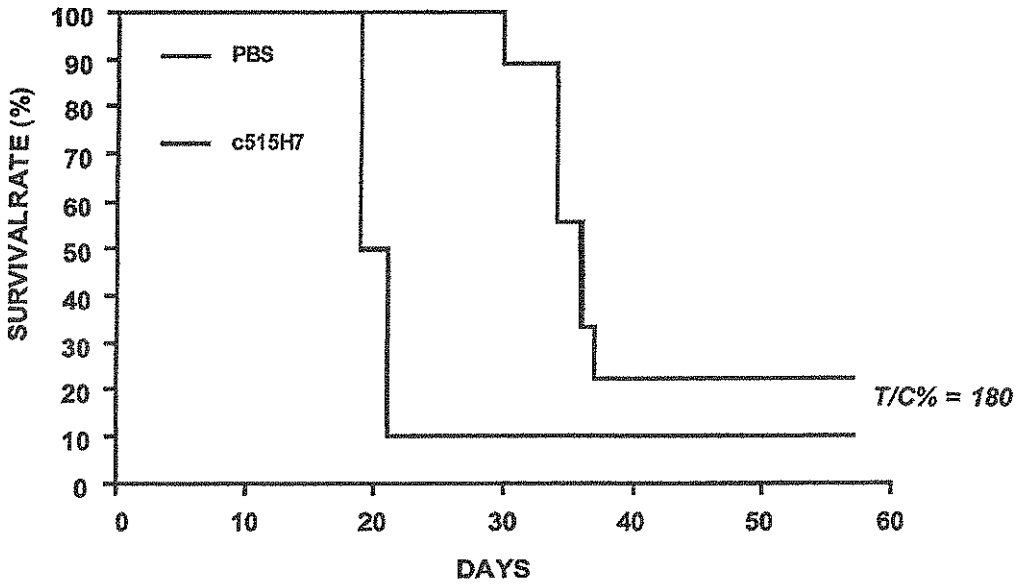


FIGURE 20

```
                        FR1-IMGT          CDR1-IMGT       FR2-IMGT        CDR2-IMGT
                        (1-26)            (27-38)         (39-55)         (56-65)
                  1         10        20        30        40        50        60
                  .........|.........|..... ...|........ .|.........|..... ....|.....
515H7 VH          EVNLVESGG.GLVQPGGSLRLSCATS GFTF....TDNY MSWVRQPPGKALEWLGF IRNKANGYTT
IGHV3-49*04       EVQLVESGG.GLVQPGRSLRLSCTAS GFTF....GDYA MSWVRQAPGKGLEWVGF IRSKAYGGTT
                    N             G     AT                    P   A   L
Priority            2             3     33                    3   3   1

VH1               EVQLVESGG.GLVQPGRSLRLSCTAS GFTF....TDNY MSWVRQAPGKGLEWVGF IRNKANGYTT
VH2               EVNLVESGG.GLVQPGRSLRLSCTAS GFTF....TDNY MSWVRQAPGKGLEWLGF IRNKANGYTT

                              FR3-IMGT                          CDR3-IMGT    FR4-IMGT
                              (66-104)                          (105-115)    (116-125)
                     70        80        90        100
                     ....|.....|.....|.....|....
515H7 VH         DYSASVR.GRFTISRDNSQSILYLQMNALRAEDSATYYC ARDVGSNYFDYW GQGTTLTVSS
IGHV3-49*04       EYAASVK.GRFTISRDDSKSIAYLQMNSLKTEDTAVYYC TR
IGHJ4*01                                                  YFDYW GQGTLVTVSS
                  D S   R         N Q  L     A RA  S T                  T
Priority          1 3   1         1 3  1     2 23  3 3                  3

VH1               EYAASVK.GRFTISRDDSKSIAYLQMNSLKTEDTAVYYC ARDVGSNYFDYW GQGTLVTVSS
VH2               DYAASVR.GRFTISRDNSKSILYLQMNALRTEDTAVYYC ARDVGSNYFDYW GQGTLVTVSS
```

FIGURE 21

```
                        FR1-IMGT          CDR1-IMGT       FR2-IMGT        CDR2-IMGT
                        (1-26)            (27-38)         (39-55)         (56-65)
                  1         10        20        30        40        50        60
                  .........|.........|..... ...|........ .|.........|..... ....|.....
515H7 VL          DIVMSQSPSSLAVSAGEKVTMSCKSS QSLFNSRTRKNY LAWYQQKPGQSPKLLIY WA.......S
IGKV4-1*01        DIVMTQSPDSLAVSLGERATINCKSS QSVLYSSNNKNY LAWYQQKPGQPPKLLIY WA.......S
                    S   S     A  KV MS                        S
Priority            3   2     3  33 22                        2

VL1               DIVMTQSPDSLAVSLGERATINCKSS QSLFNSRTRKNY LAWYQQKPGQPPKLLIY WA.......S
VL3               DIVMTQSPDSLAVSLGERATINCKSS QSLFNSRTRKNY LAWYQQKPGQPPKLLIY WA.......S
VL2               DIVMTQSPSSLAVSLGERATMSCKSS QSLFNSRTRKNY LAWYQQKPGQSPKLLIY WA.......S

                              FR3-IMGT                          CDR3-IMGT  FR4-IMGT
                              (66-104)                          (106-113)  (114-123)
                     70        80        90        100
                     ....|.....|.....|.....|....
515H7 VL         ARDSGVP.ARFTGSG..SETYFTLTISRVQAEDLAVYYC MQSFNLRT FGQGTKVEIK
IGKV4-1*01        TRESGVP.DRFSGSG..SGTDFTLTISSLQAEDVAVYYC
IGKJ1*01                                                  WT FGQGTKVEIK
                  A D     A  T      E Y      RV    L
Priority          1 1     2  1      1 1      22    2

VL1               TRESGVP.DRFSGSG..SGTDFTLTISSLQAEDVAVYYC MQSFNLRT FGQGTKVEIK
VL3               ARDSGVP.DRFTGSG..SETYFTLTISSLQAEDVAVYYC MQSFNLRT FGQGTKVEIK
VL2               ARDSGVP.ARFTGSG..SETYFTLTISRVQAEDLAVYYC MQSFNLRT FGQGTKVEIK
```

FIGURE 22

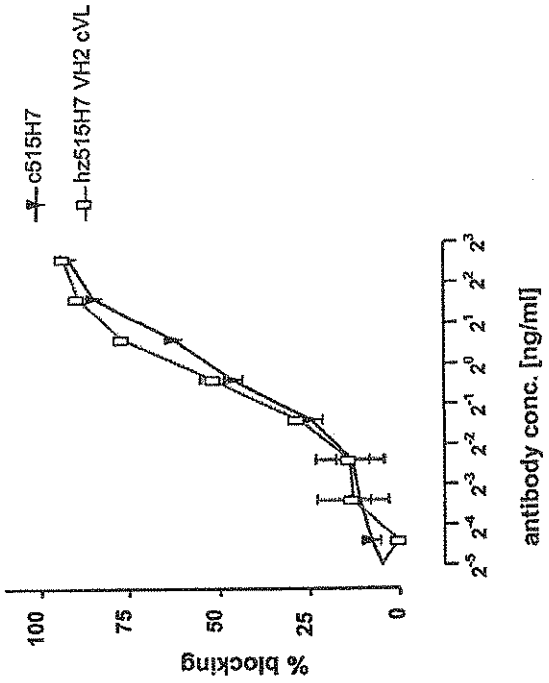


FIGURE 23B

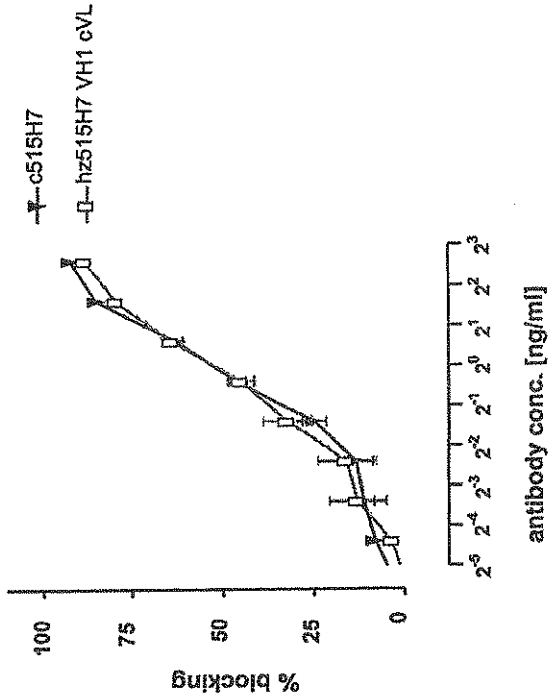


FIGURE 23A

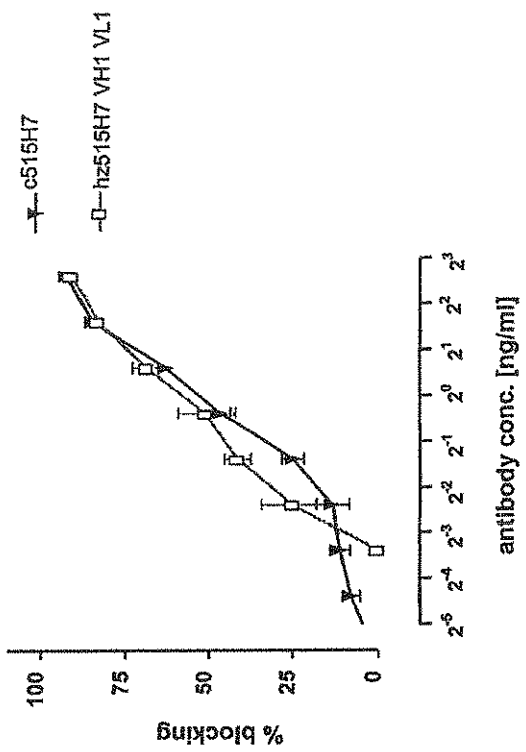


FIGURE 23D

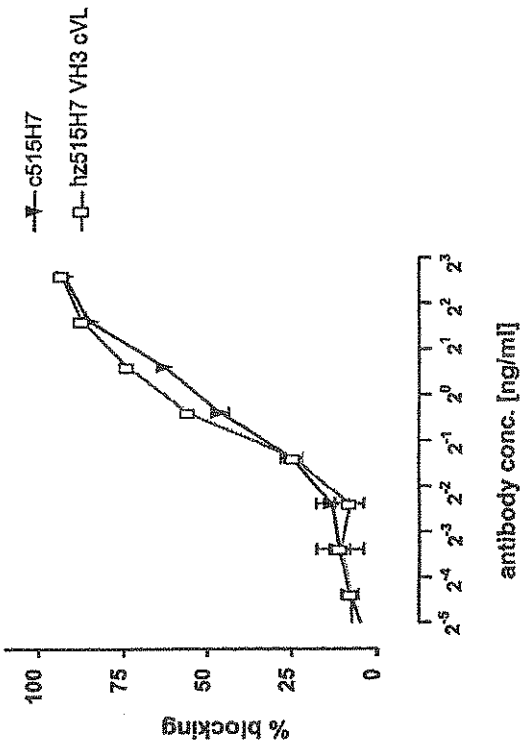


FIGURE 23C

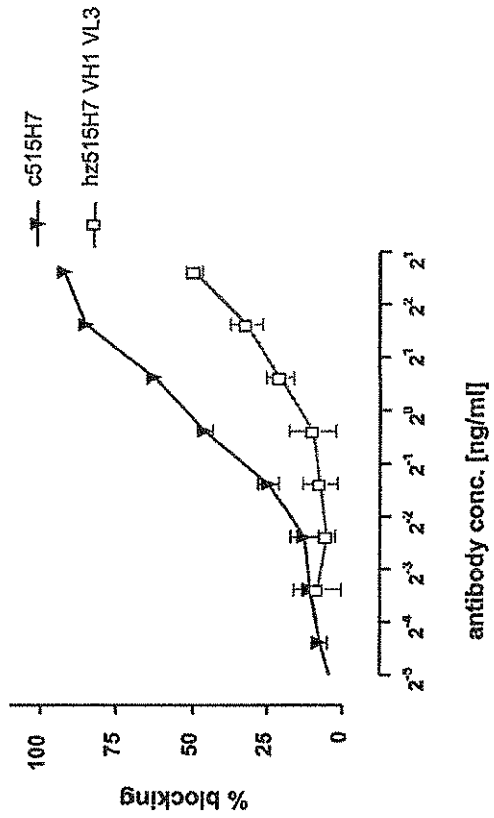


FIGURE 23F

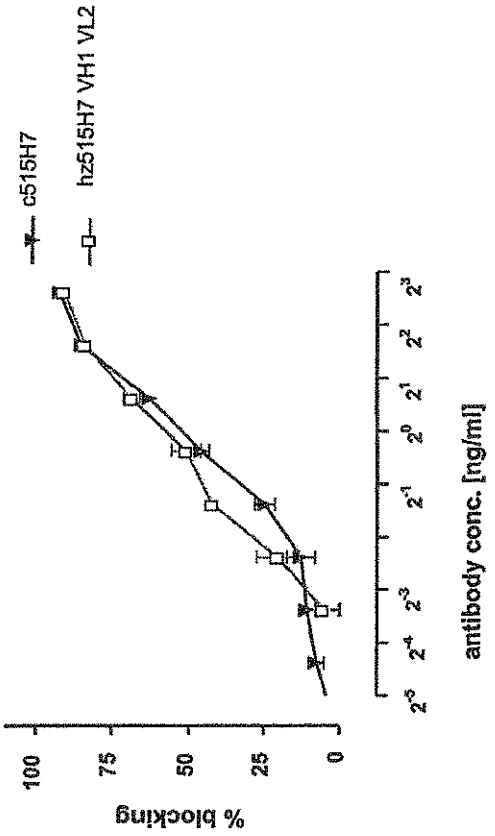


FIGURE 23E

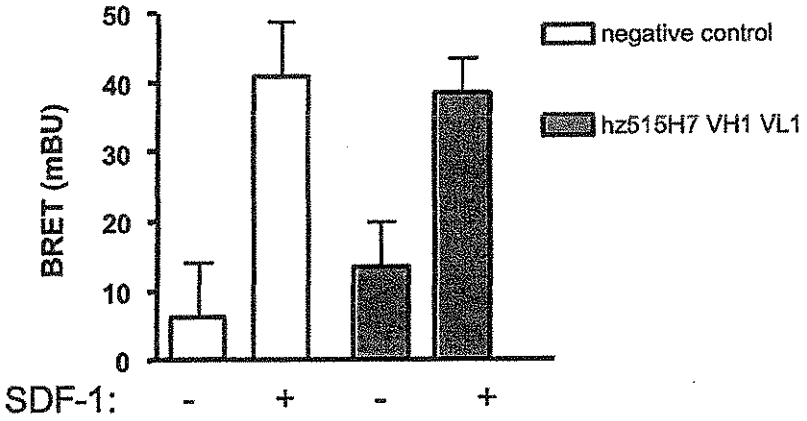

50
40
30
20
10
0
BRET (mBU)
negative control
hz515H7 VH1 VL1
SDF-1: - + - +

FIGURE 24

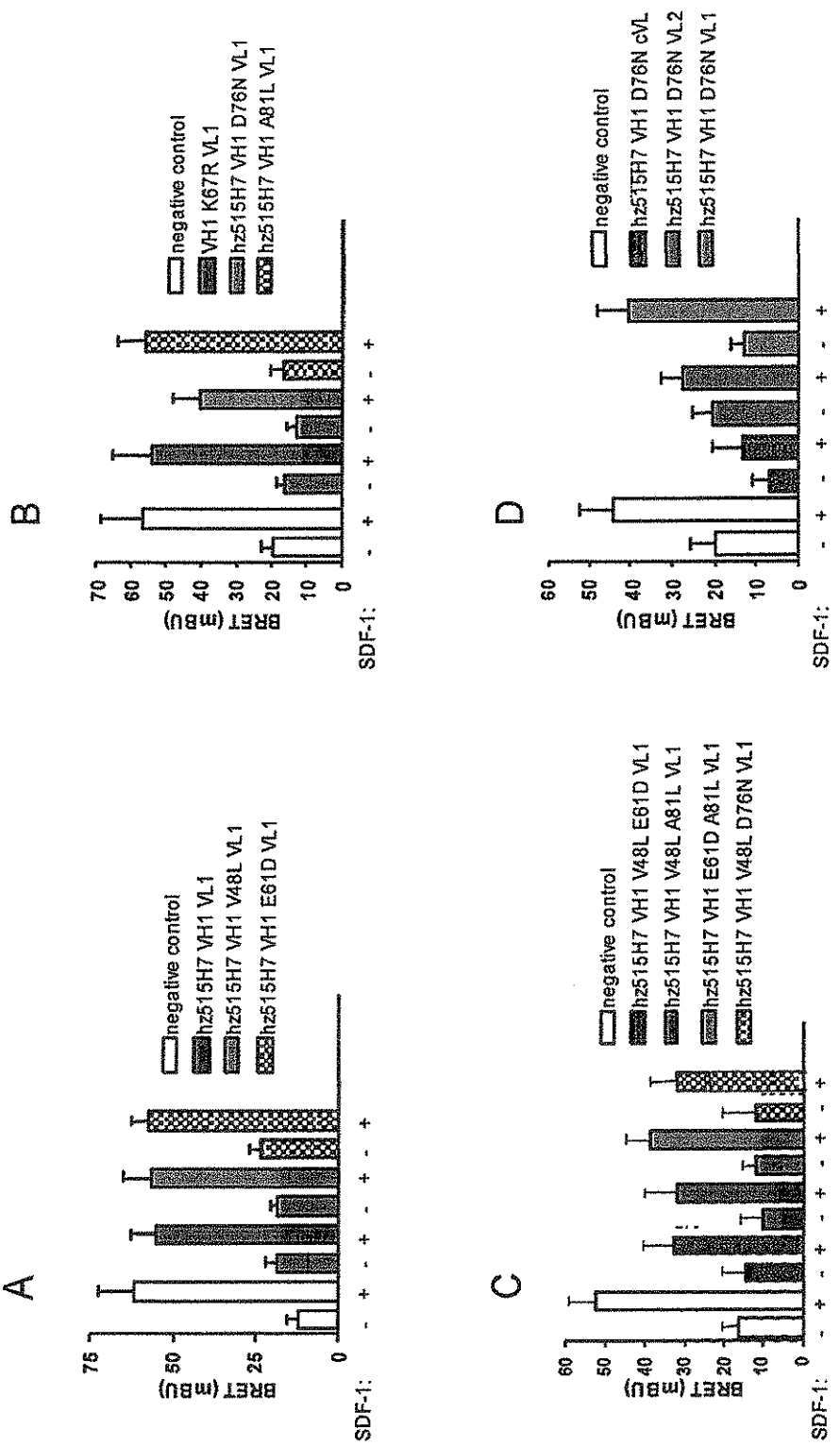


FIGURE 25A – FIGURE 25C

FIGURE 25B – FIGURE 25D

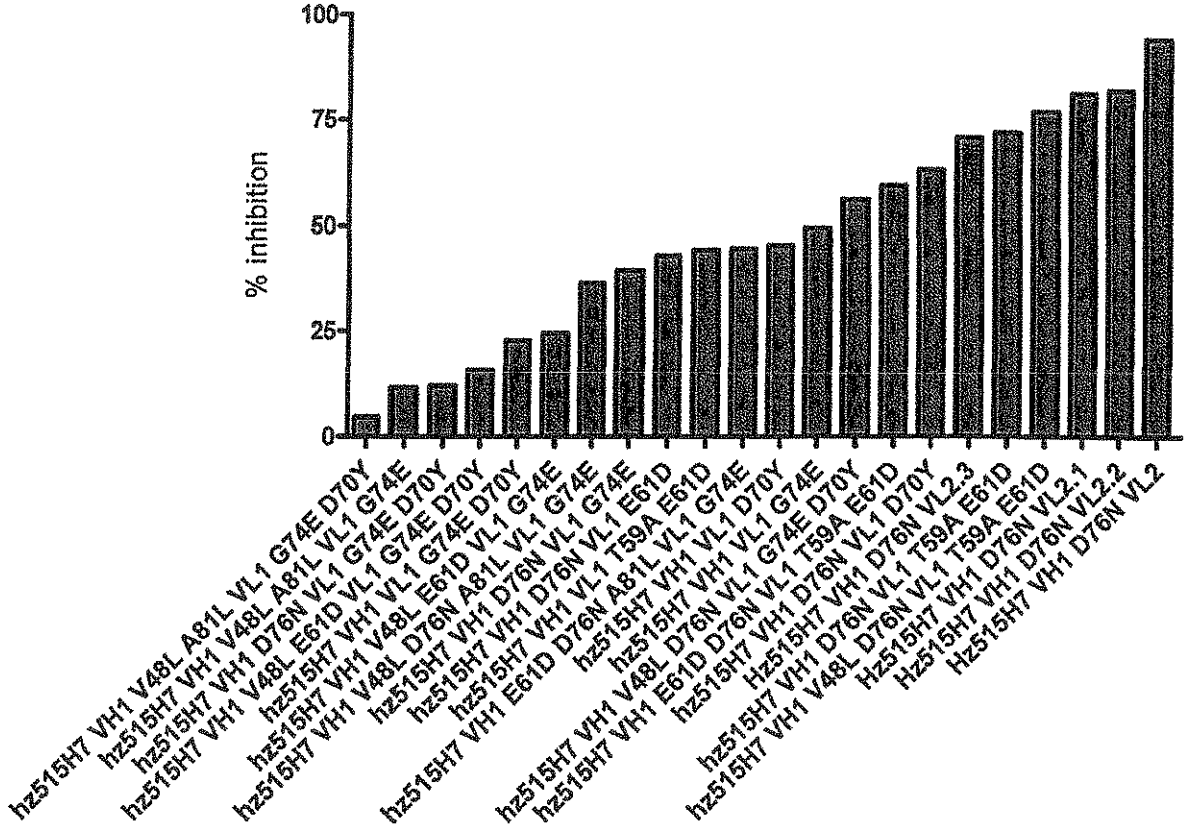

100
75
50
25
0
% inhibition
hz515H7 VH1 V48L A81L VL1 G74E D70Y
hz515H7 VH1 V48L A81L VL1 G74E
hz515H7 VH1 D76N VL1 G74E D70Y
hz515H7 VH1 V48L E61D VL1 G74E D70Y
hz515H7 VH1 V48L E61D VL1 G74E
hz515H7 VH1 V48L D76N A81L VL1 G74E
hz515H7 VH1 D76N VL1 G74E
hz515H7 VH1 D76N VL1 E61D
hz515H7 VH1 E61D D76N VL1 T59A E61D
hz515H7 VH1 V48L D76N A81L VL1 G74E
hz515H7 VH1 V48L D76N VL1 VL1 D70Y
hz515H7 VH1 V48L D76N VL1 G74E
hz515H7 VH1 E61D D76N VL1 T59A D70Y
hz515H7 VH1 V48L D76N VL1 T59A E61D
hz515H7 VH1 D76N VL1 D70Y
Hz515H7 VH1 D76N VL1 T59A E61D
hz515H7 VH1 V48L D76N VL2.3
Hz515H7 VH1 D76N VL1 T59A E61D
Hz515H7 VH1 D76N VL2.1
Hz515H7 VH1 D76N VL2.2
Hz515H7 VH1 D76N VL2

FIGURE 26

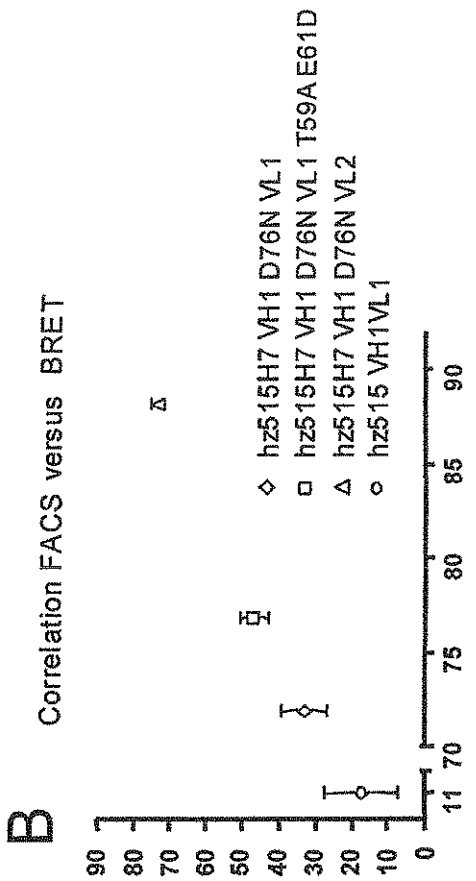


FIGURE 27B

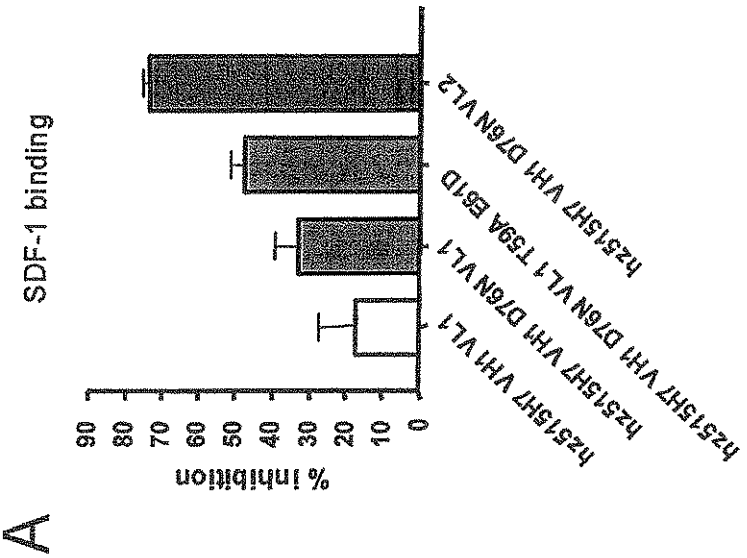


FIGURE 27A

	FR1-IMGT (1-26)	CDR1-IMGT (27-38)	FR2-IMGT (39-55)	CDR2-IMGT (56-65)
	1 10 20	30	40 50	60
515H7 VL	DIVMSQSPSSLAVSAGEKVTMSCKSS	QSLFNSRTRKNY	LAWYQQKPGQSPKLLIY	WA.....S
IGKV4-1*01	DIVMTQSPDSLAVSLGERATINCKSS	QSVLYSSNNKNY	LAWYQQKPGQPPKLLIY	WA.....S
VL2	DIVMTQSPSSLAVSLGERATMSCKSS	QSLFNSRTRKNY	LAWYQQKPGQSPKLLIY	WA.....S
VL2.1	DIVMTQSPDSLAVSLGERATMSCKSS	QSLFNSRTRKNY	LAWYQQKPGQPPKLLIY	WA S
VL2.2	DIVMTQSPDSLAVSLGERATMSCKSS	QSLFNSRTRKNY	LAWYQQKPGQPPKLLIY	WA S
VL2.3	DIVMTQSPDSLAVSLGERATMSCKSS	QSLFNSRTRKNY	LAWYQQKPGQPPKLLIY	WA S

	FR3-IMGT (66-104)	CDR3-IMGT (106-113)	FR4-IMGT (114-123)
	70 80 90 100		
515H7 VL	ARDSGVP.ARFTGSG..SETYFTLTISRVQAEDLAVYYC	MQSFNLRT	FGQGTKVEIK
IGKV4-1*01	TRESGVP.DRFSGSG..SGTDFTLTISSLQAEDVAVYYC		
IGKJ1*01		WT	FGQGTKVEIK
VL2	ARDSGVP.ARFTGSG..SETYFTLTISRVQAEDLAVYYC	MQSFNLRT	FGQGTKVEIK
VL2.1	ARDSGVP DRFSGSG SETYFTLTISRVQAEDLAVYYC	MQSFNLRT	FGQGTKVEIK
VL2.2	ARDSGVP DRFTGSG SETYFTLTISRVQAEDVAVYYC	MQSFNLRT	FGQGTKVEIK
VL2.3	ARDSGVP DRFTGSG SETYFTLTISSLQAEDLAVYYC	MQSFNLRT	FGQGTKVEIK

FIGURE 28

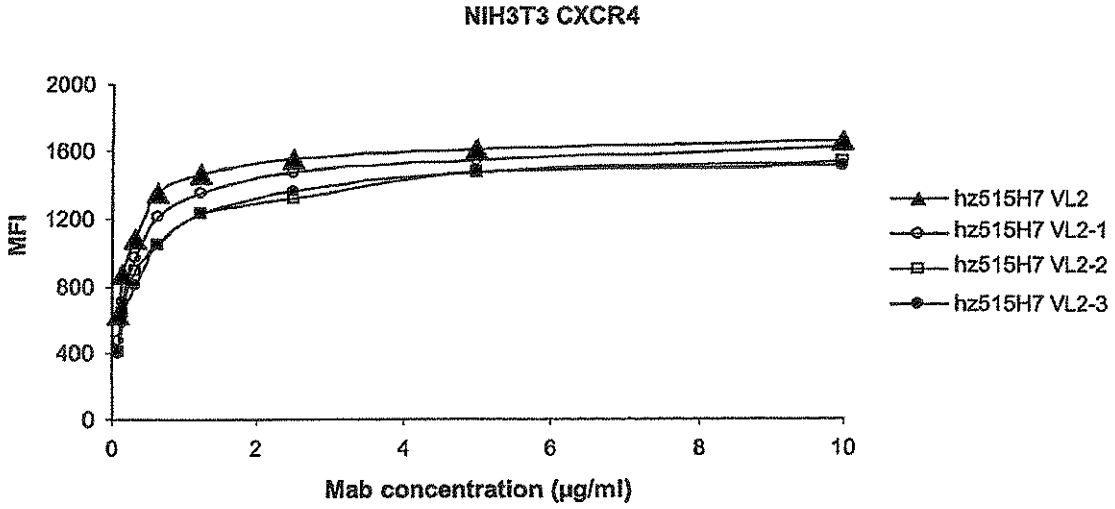


FIGURE 29A

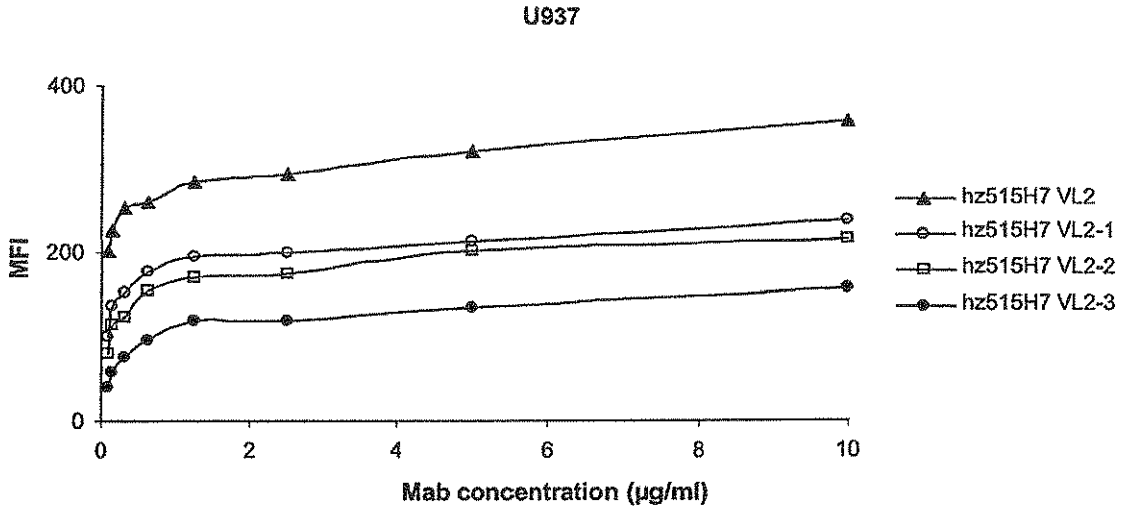


FIGURE 29B

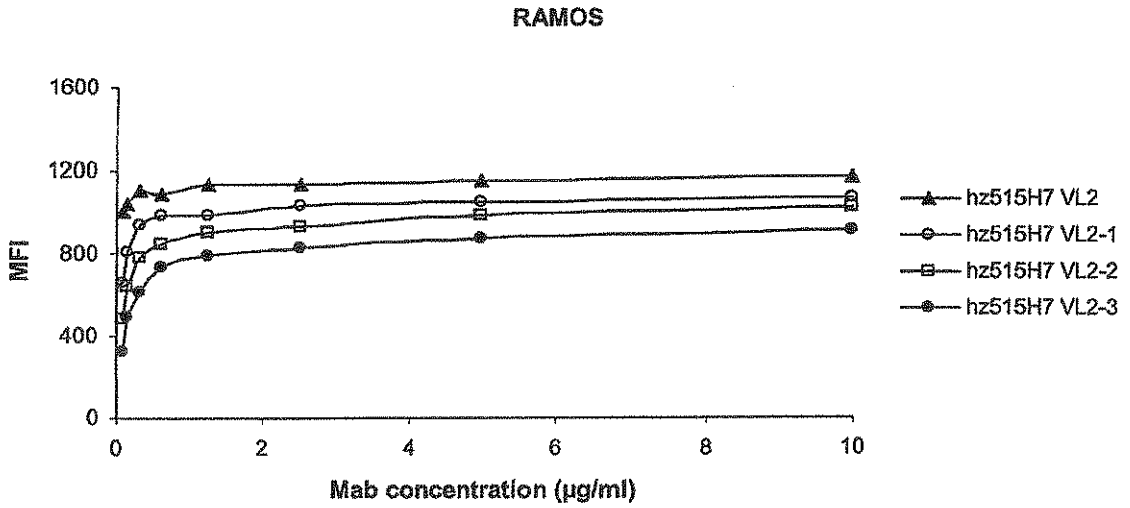


FIGURE 29C

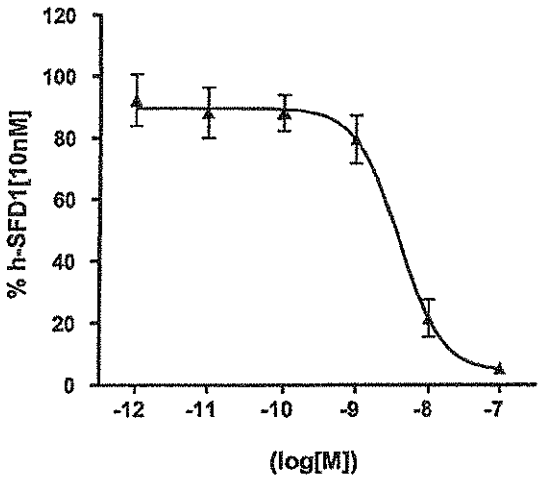


FIGURE 30A

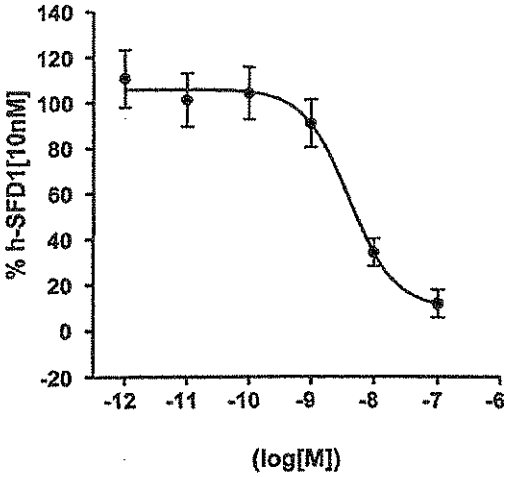


FIGURE 30B

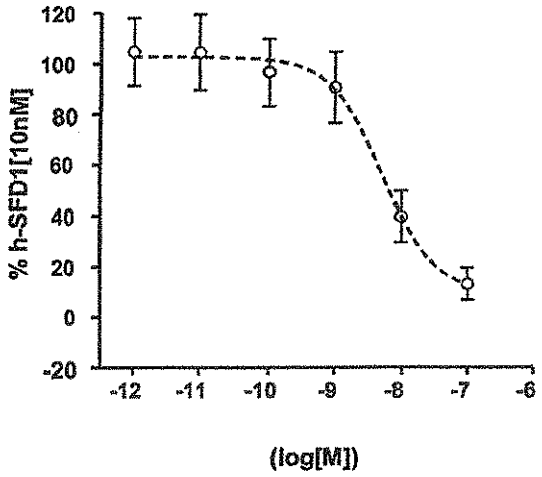


Figure 30C

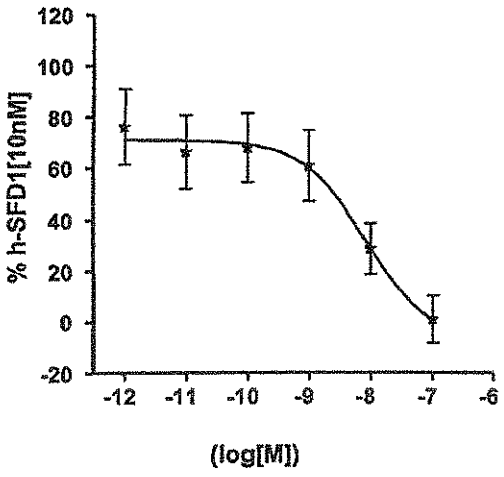


Figure 30D

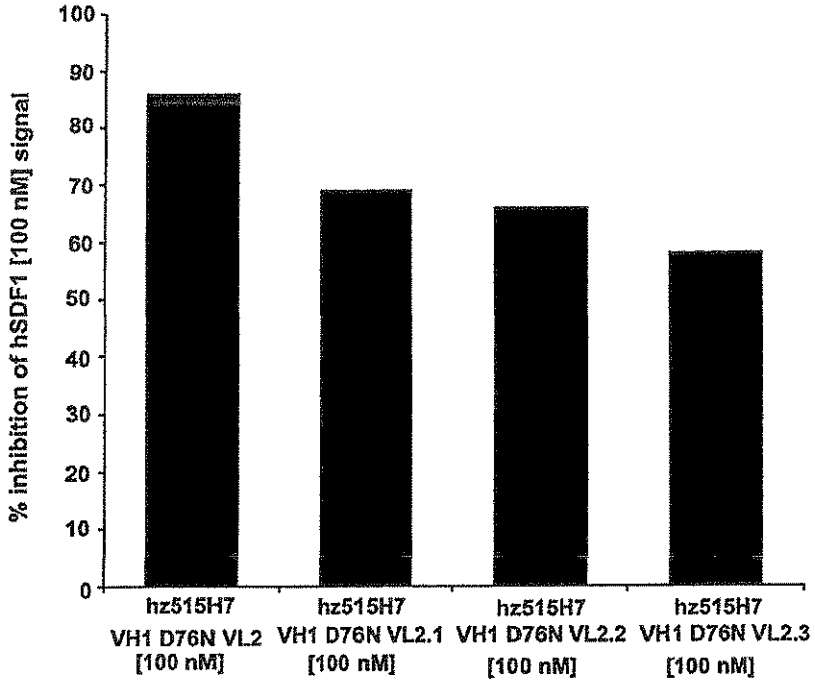


FIGURE 31

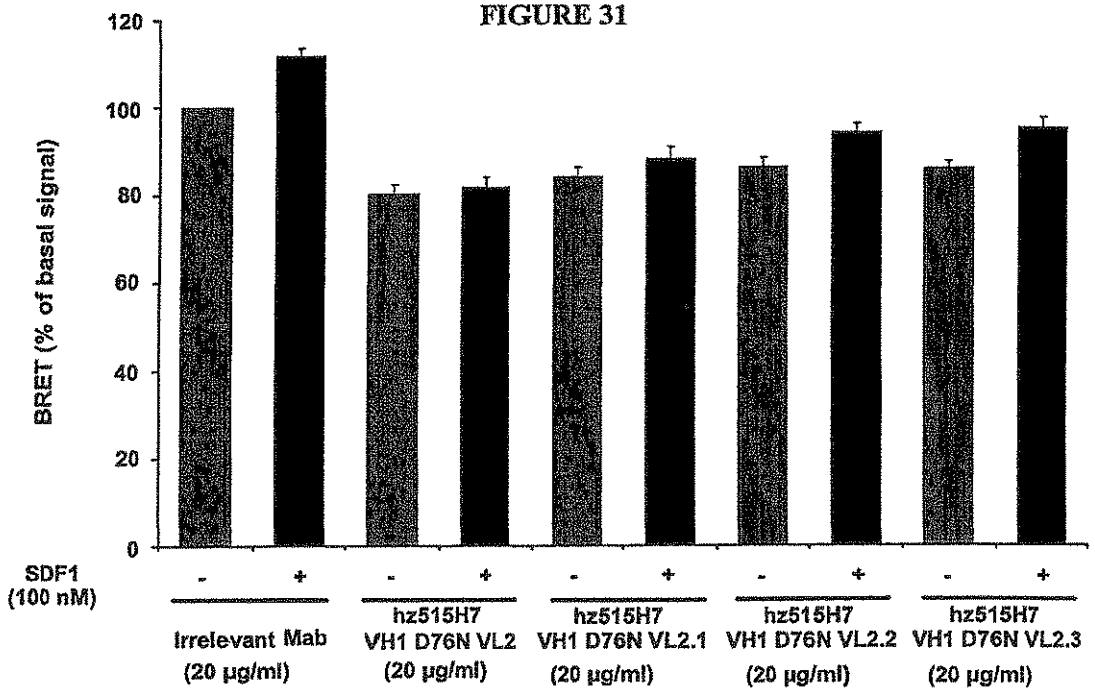


FIGURE 32A

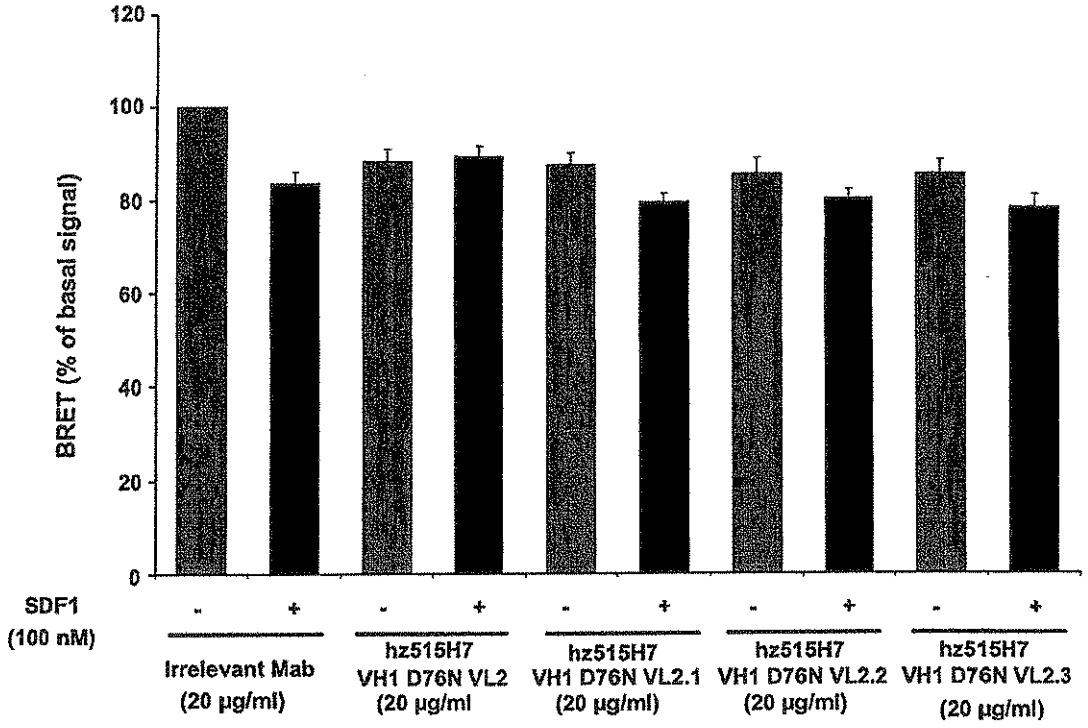


FIGURE 32B

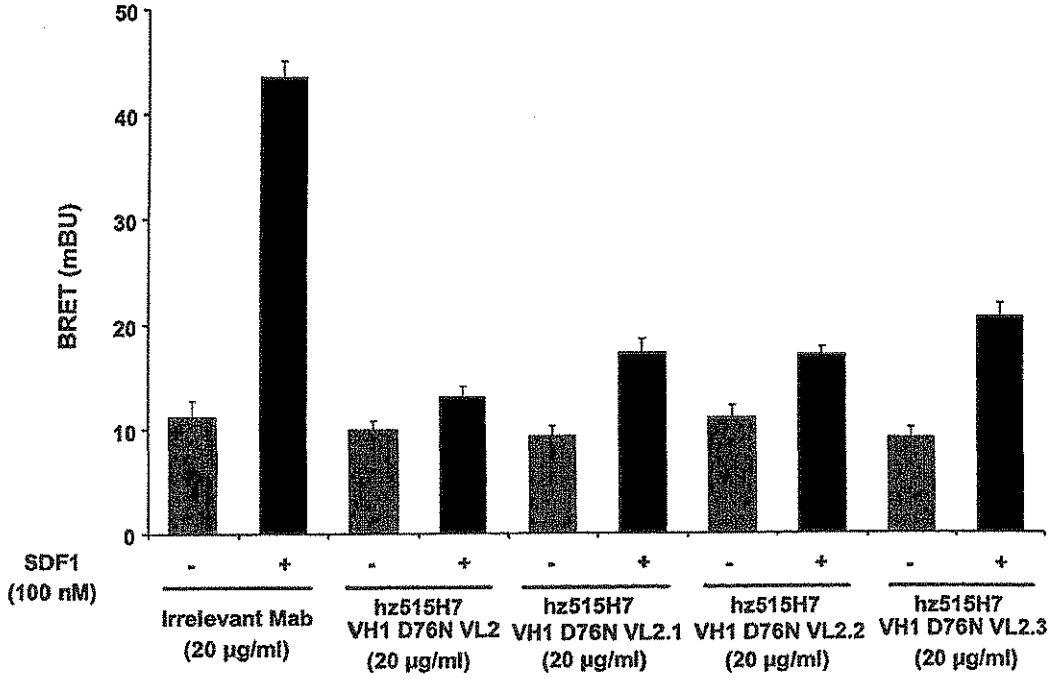


FIGURE 32C

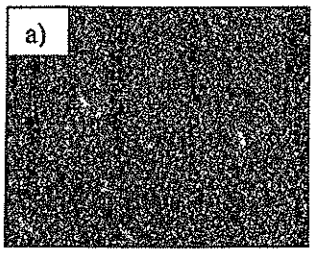


Figure 33A

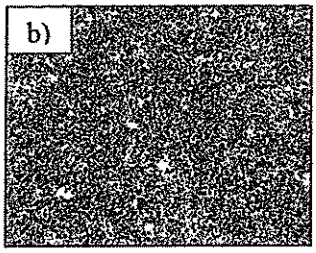


Figure 33B

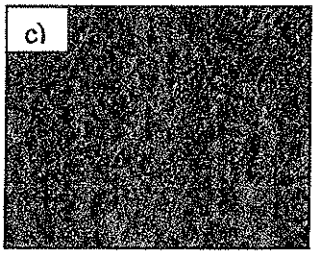


Figure 33C

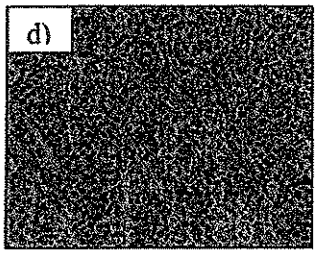


Figure 33D

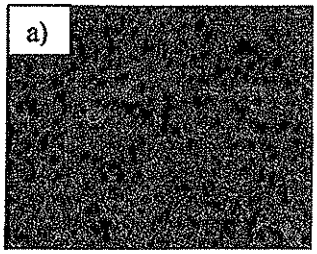


Figure 34A

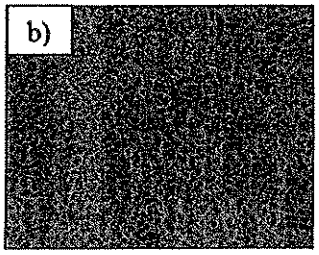


Figure 34B

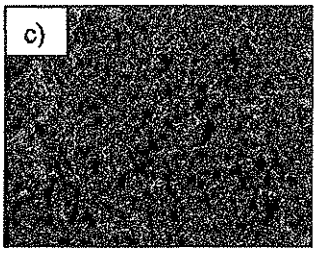


Figure 34C

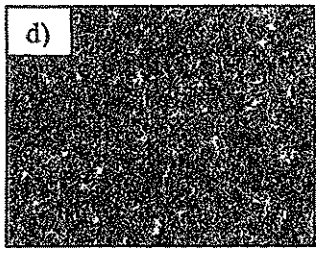


Figure 34D

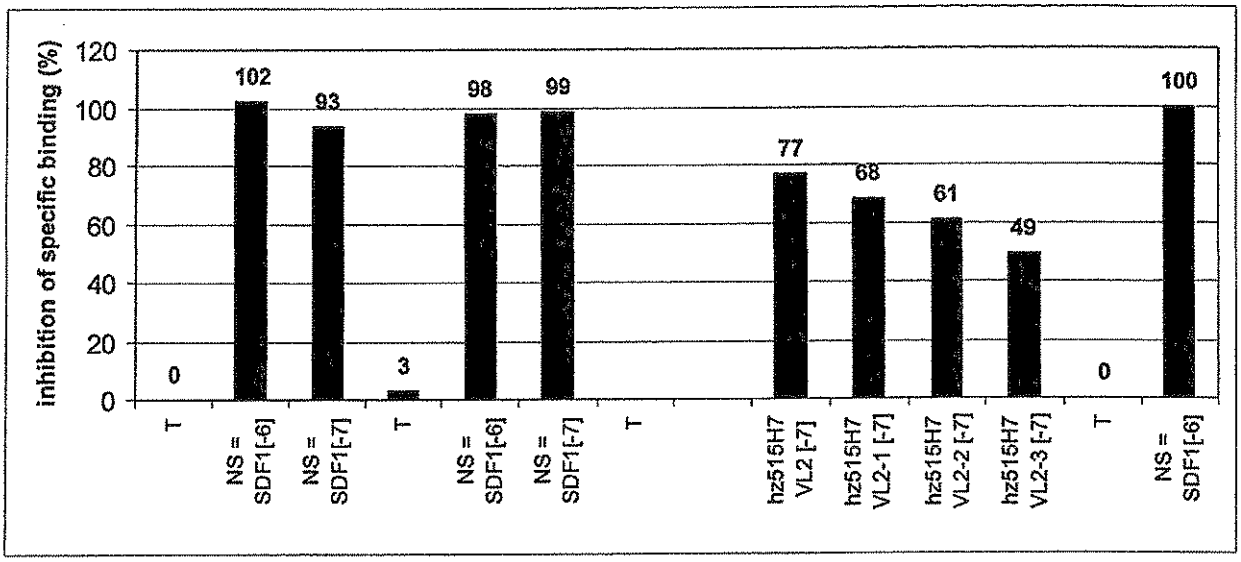


Figure 35A

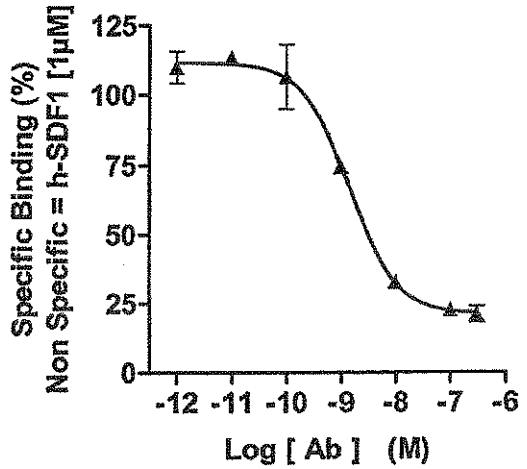


Figure 35B

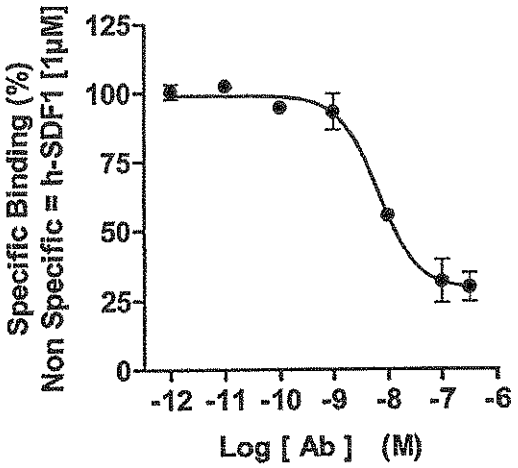


Figure 35C

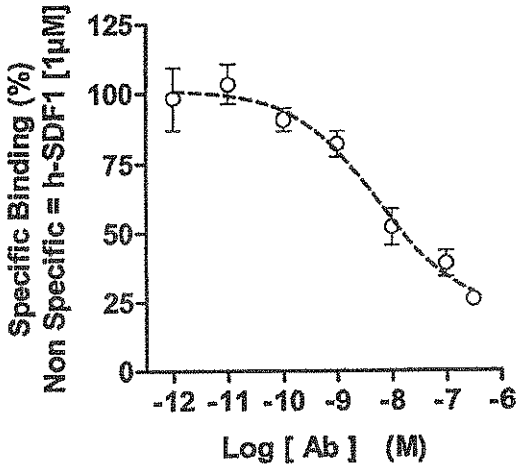


Figure 35D

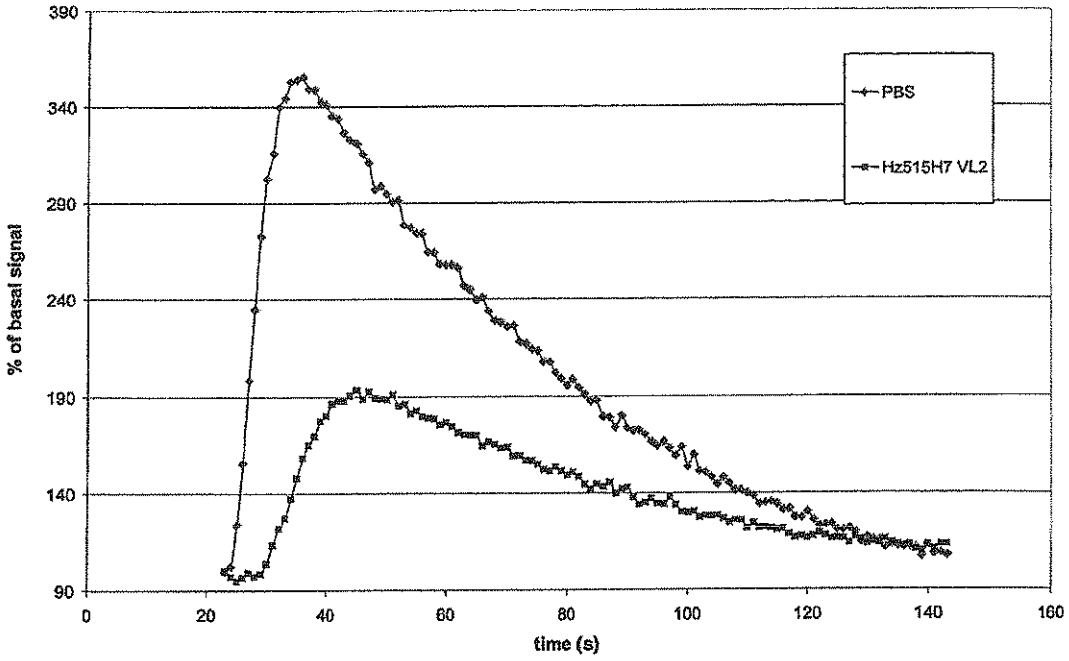


Figure 36

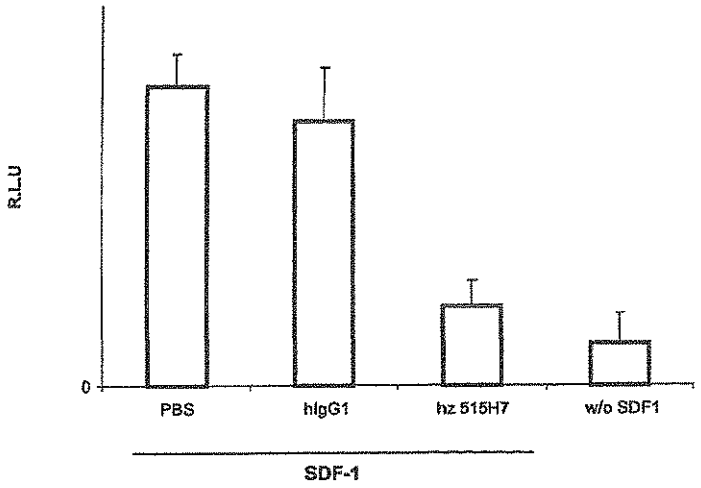


Figure 37A

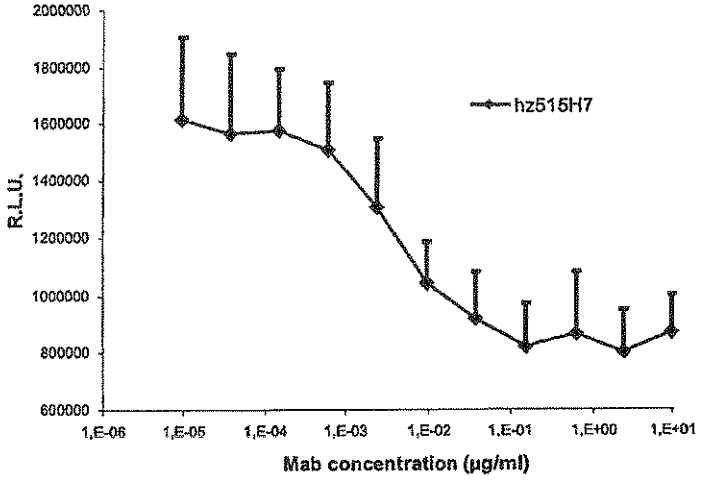


Figure 37B

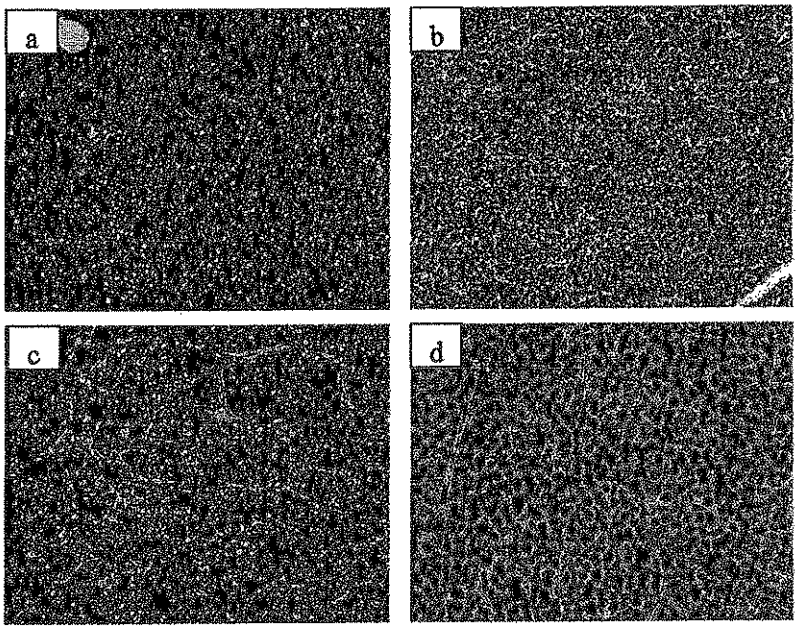


Figure 38

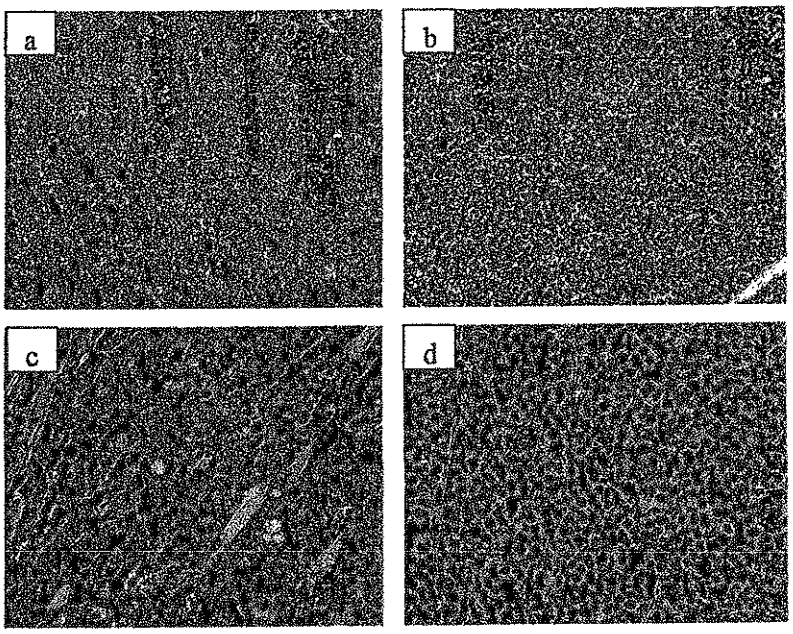


Figure 39

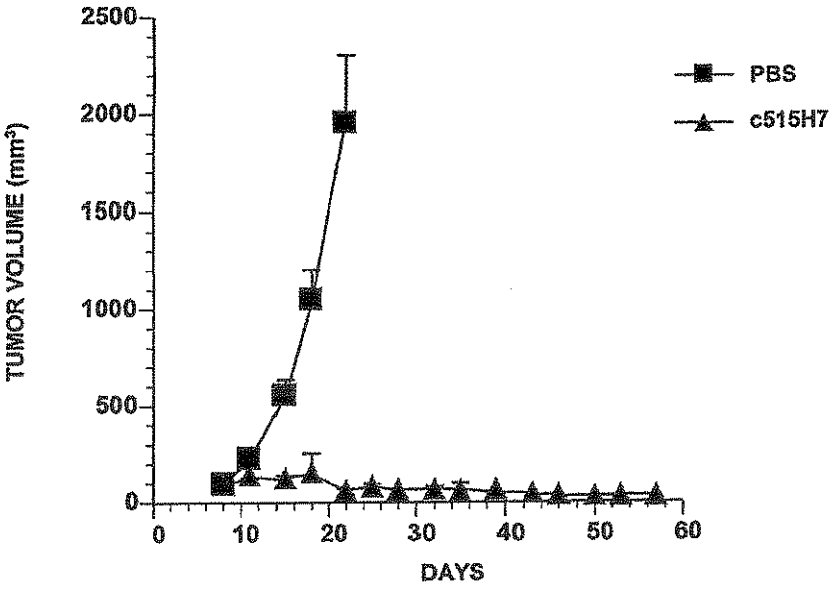


Figure 40

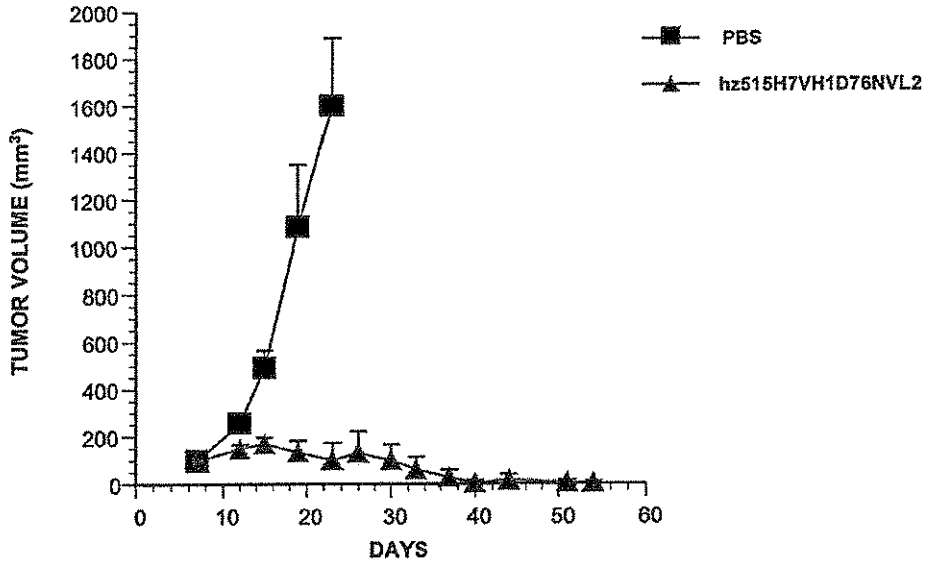


Figure 41

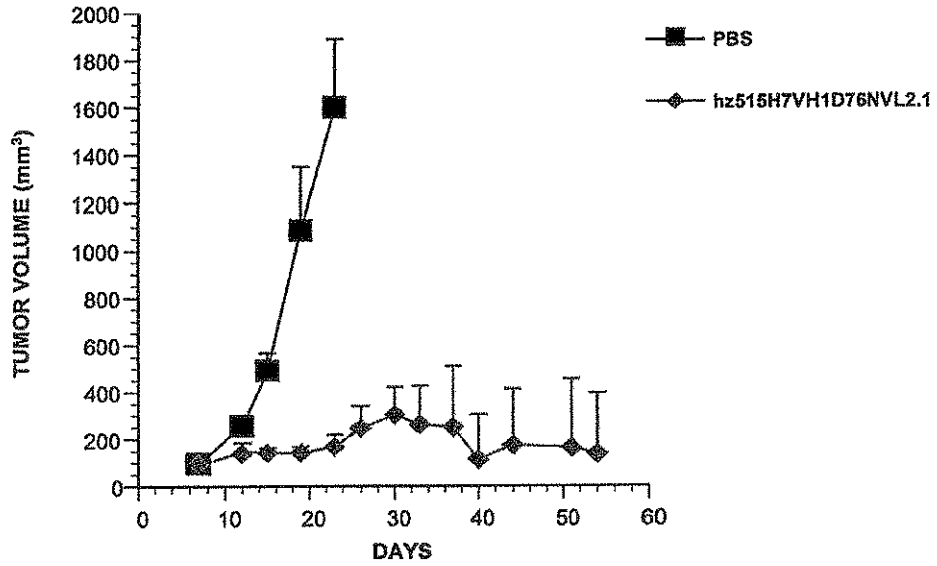


Figure 42