

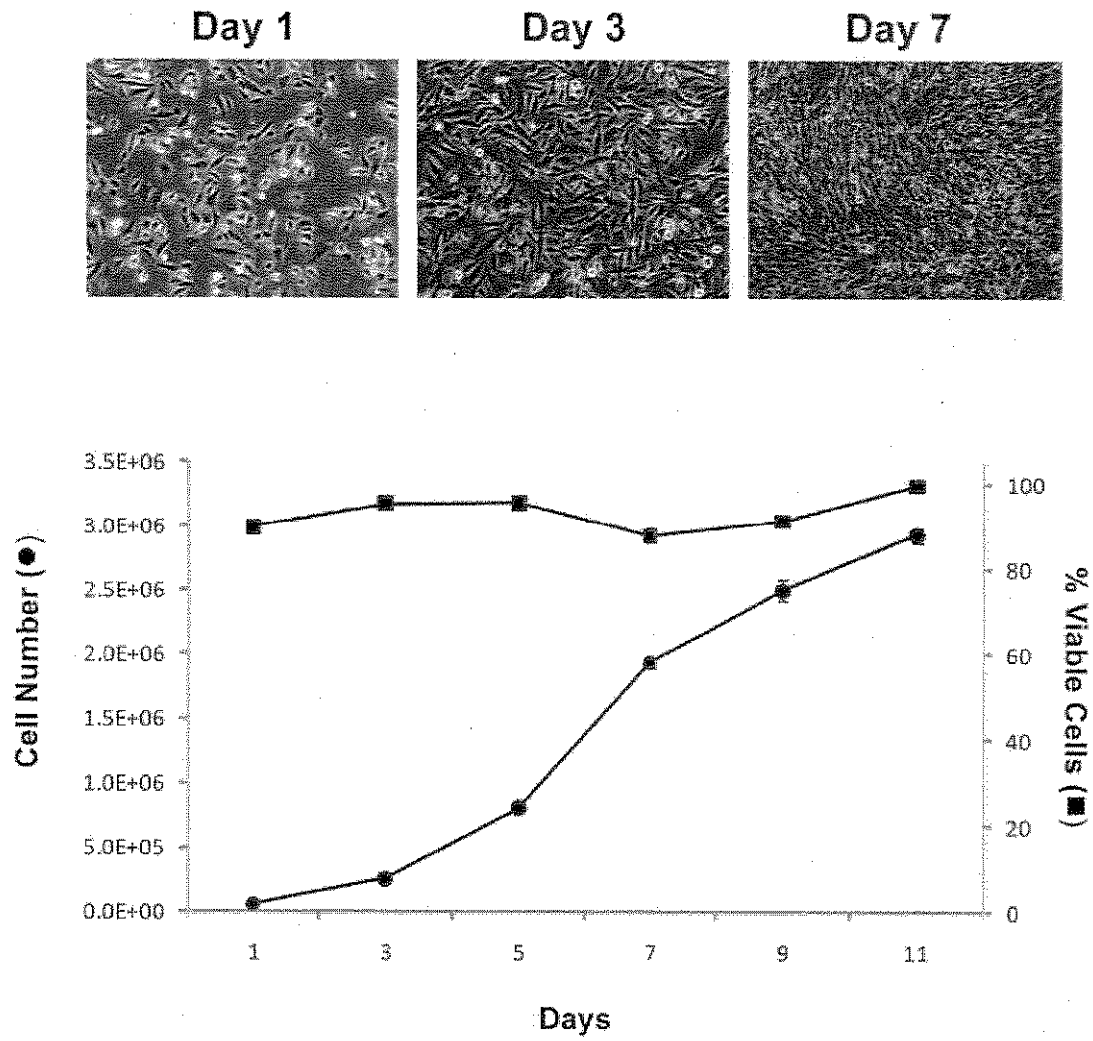


Figure 1

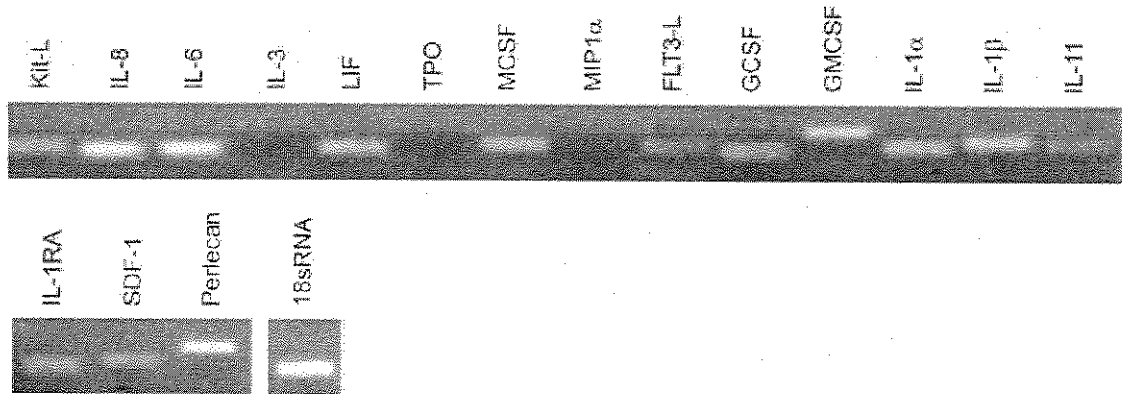
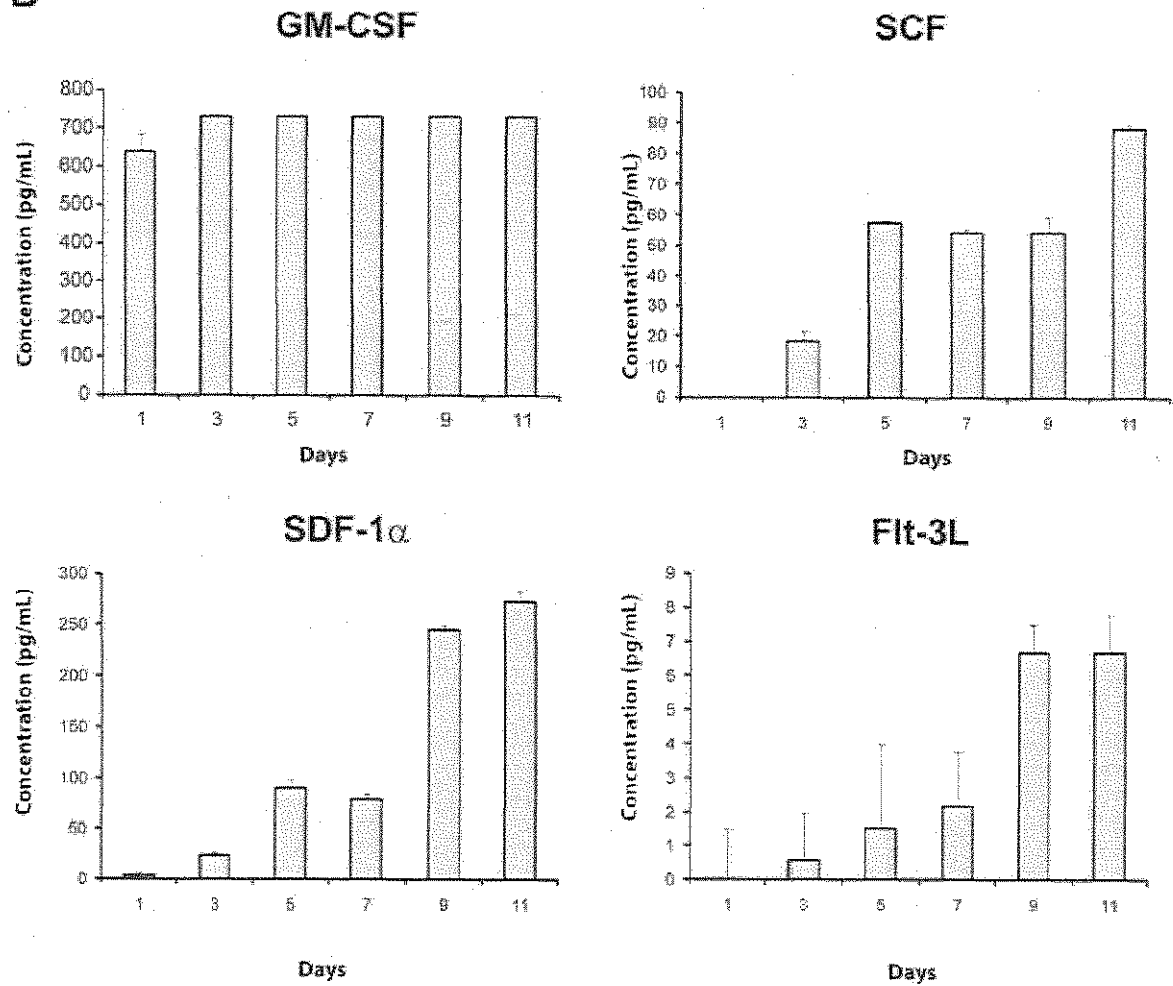
A**B**

Figure 2

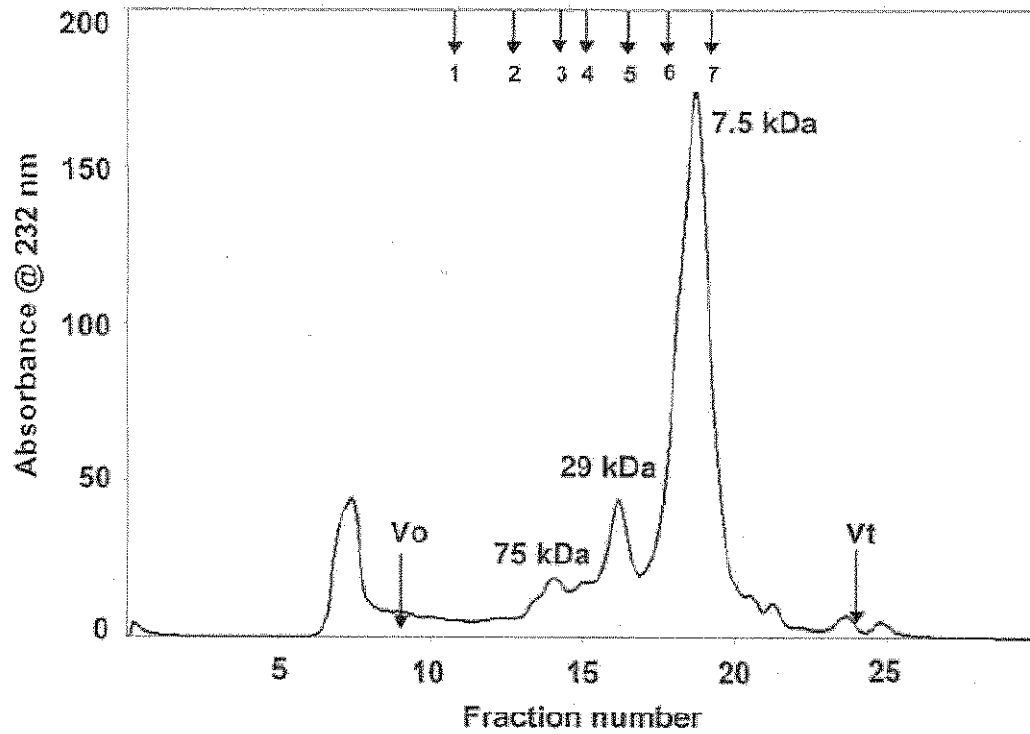


Figure 3

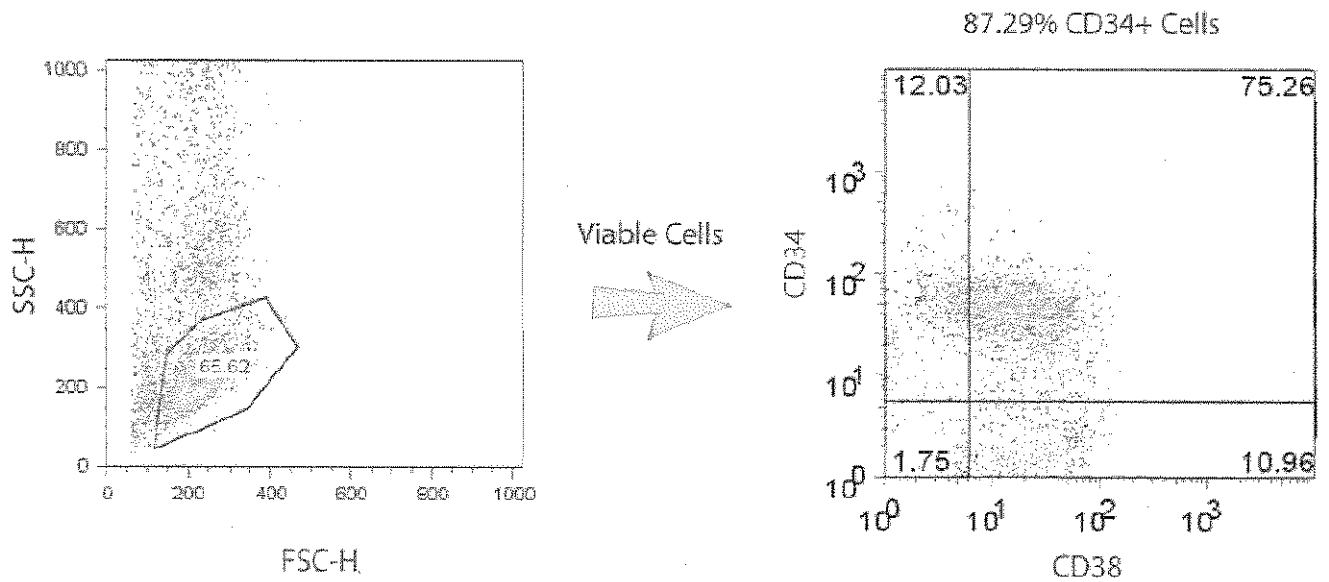


Figure 4

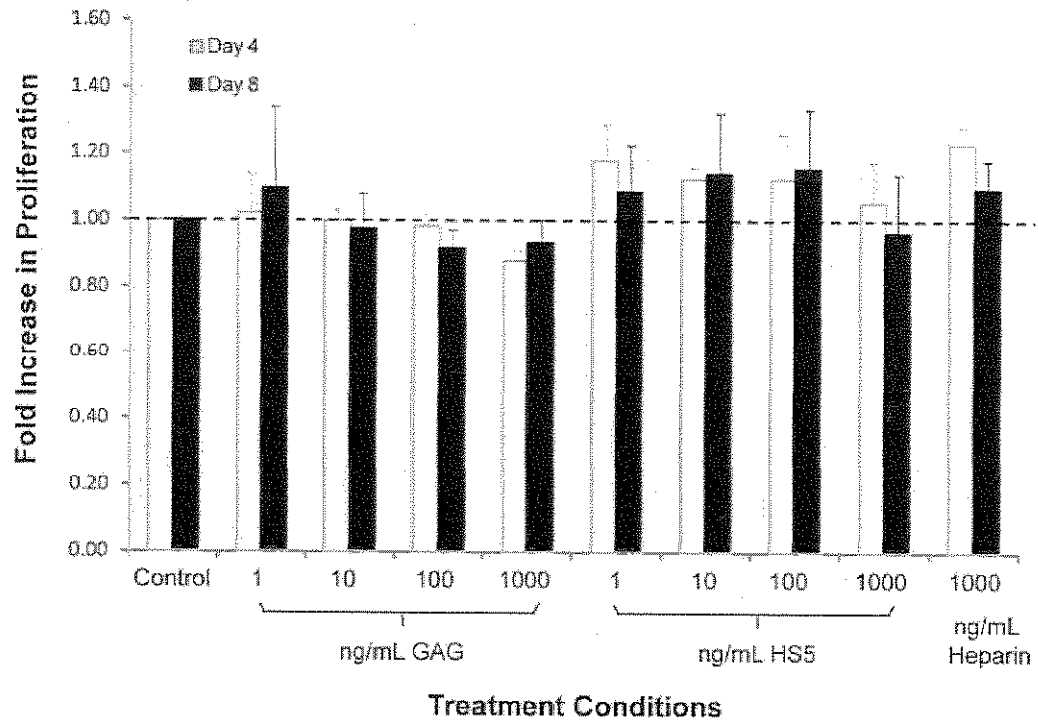
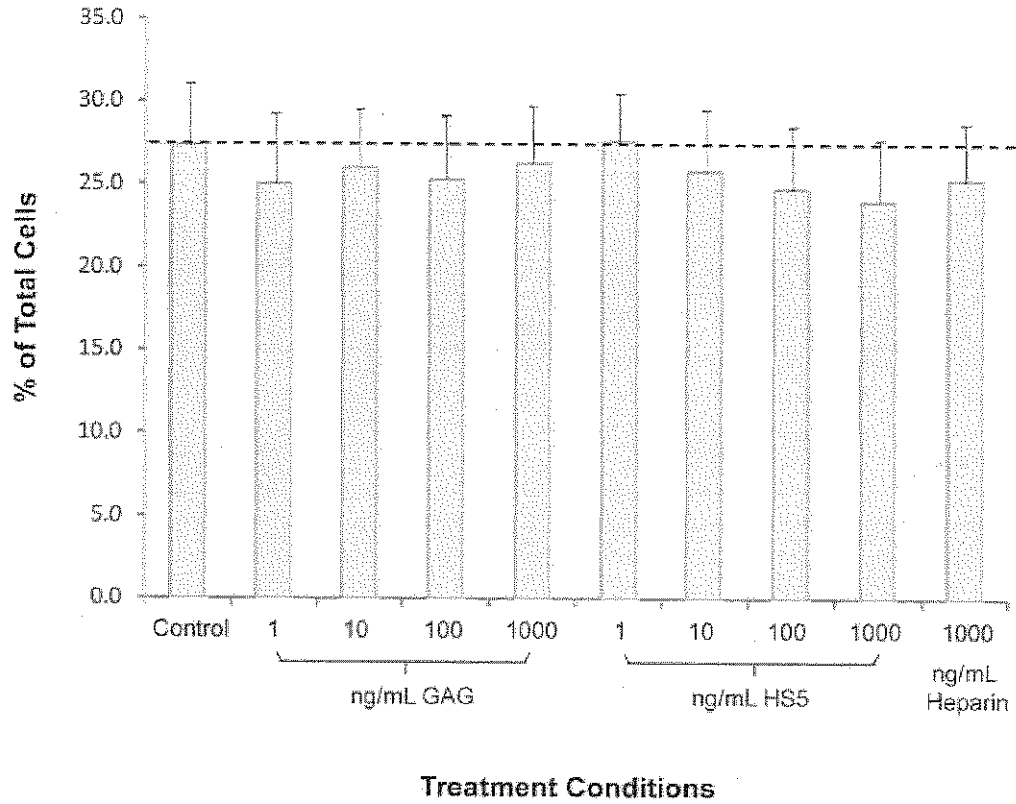
A**B**

Figure 5

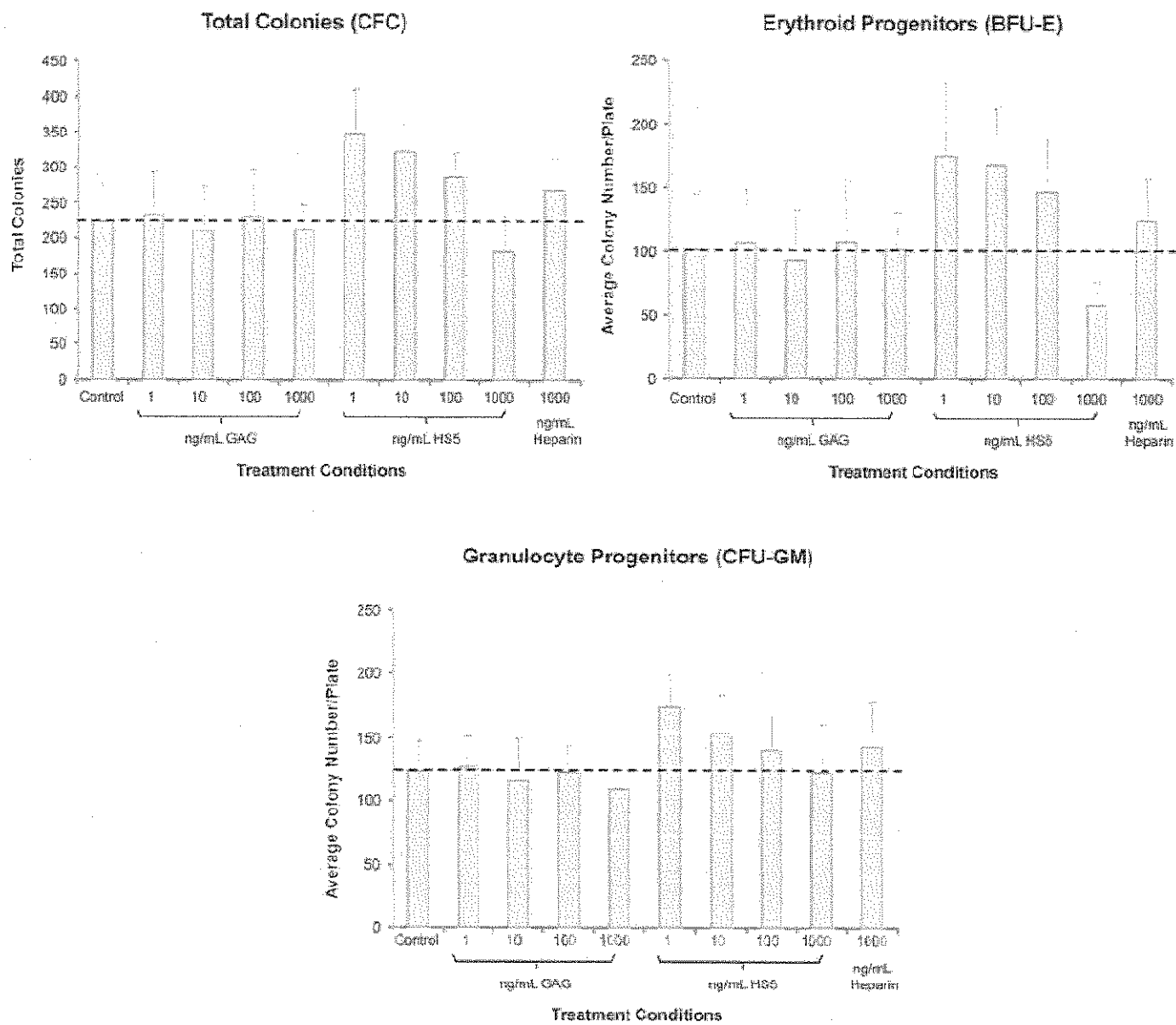


Figure 6

Table 1. List of primers used in PCR

Cytokines	Accession ID	F Primer	R Primer
Kit-L	NM_000899.3	CGGAGCCTCCAGTCTGTCATTA	AGGACTCACCCCTAAGGAGTGA
IL-8	NM_000584.2	TCCTTGTTCCACTGTGCCTTG	TGCTTCCACATGTCCTCACAAC
IL-6	NM_000600.1	AATTCGGTACATCCTCGACGG	GGTTGTTTTCTGCCAGTGCCT
IL-3	NM_000588.3	CCAATCCATATCAAGGACGGTG	GCTCAAAGTCGTCTGTTGAGCC
LIF	NM_002309.2	TCCCAACAGCAAGACGAGGAT	CAAGCTAAGCCGGATGAAGCAG
TPO	NM_000460.2	CTTCGTGACTCCCATGTCCTTC	CCCAAGCTAAAGTCCACAGCAG
M-CSF	NM_000757.3	GCAGCTGCAGGAAGTCTCTTTG	TGACCTTCTCCAGCAACTGGAG
MIP1a	M24110.1	CTCTGCAAAACCCCCCAAAT	CAACTGCGGAGAAAGGAGAGAA
Flt3-L	NM_001459.2	AAGATGCAAGGCTTGCTGGA	AGATGTTGGTCTGGACGAAGCG
G-CSF	X03438.1	GCTTCCTGCTCAAGTGCTTAGA	GCACACTCACTCACCAGCTTCT
GM-CSF	NM_000758.2	AAGTTCTCTGGAGGATGTGGCT	TCATTGATCTCAGCAGCAGTGT
IL-1a	NM_000575.3	AAGGCTGCATGGATCAATCTGT	TCCCGTTGGTTGCTACTACCAC
IL-1b	NM_000576.2	AGGCGGCCAGGATATAACTGA	TTCTGTTCCCTTTCTGCCAGC
IL-11	NM_000641.2	GAAGTCCAAGAGTTGAGACCG	CAGCATGCAGTGGTTTTGTAGC
IL-1RA	NM_000877.2	ACAAAATTGGCCAGAGAGTGG	CCATTGATTCTTGTCCCTCCTT
SDF-1	NM_199168.2	GCCAACGTCAAGCATCTCAA	CCTGAATCCACTTTAGCTTCGG
Perlecan	NM_005529	TGGACACATTCGTACCTTTCTGA	CCTCGGACACCTCTCGAAACT
18sRNA	AY248756.1	TTCGAGGCCCTGTAATTGGA	GCAGCAACTTTAATATACGCTAT TGG

Figure 7

Table 2. Total GAGs and HS did not have any effect toward phenotypic markers of hematopoietic stem cell

Treatment Group	CD44	CD90	CD184
Control	99.97%	3.42%	9.77%
1 ng/mL GAG	99.92%	4.37%	10.62%
10 ng/mL GAG	100.00%	3.98%	10.48%
100 ng/mL GAG	99.94%	3.65%	8.25%
1000 ng/mL GAG	99.94%	2.27%	8.04%
1 ng/mL HS5	100.00%	5.36%	16.86%
10 ng/mL HS5	99.97%	5.57%	12.81%
100 ng/mL HS5	99.94%	4.03%	11.84%
1000 ng/mL HS5	99.94%	2.50%	8.95%
1000 ng/mL Heparin	99.94%	4.16%	13.23%

Figure 8

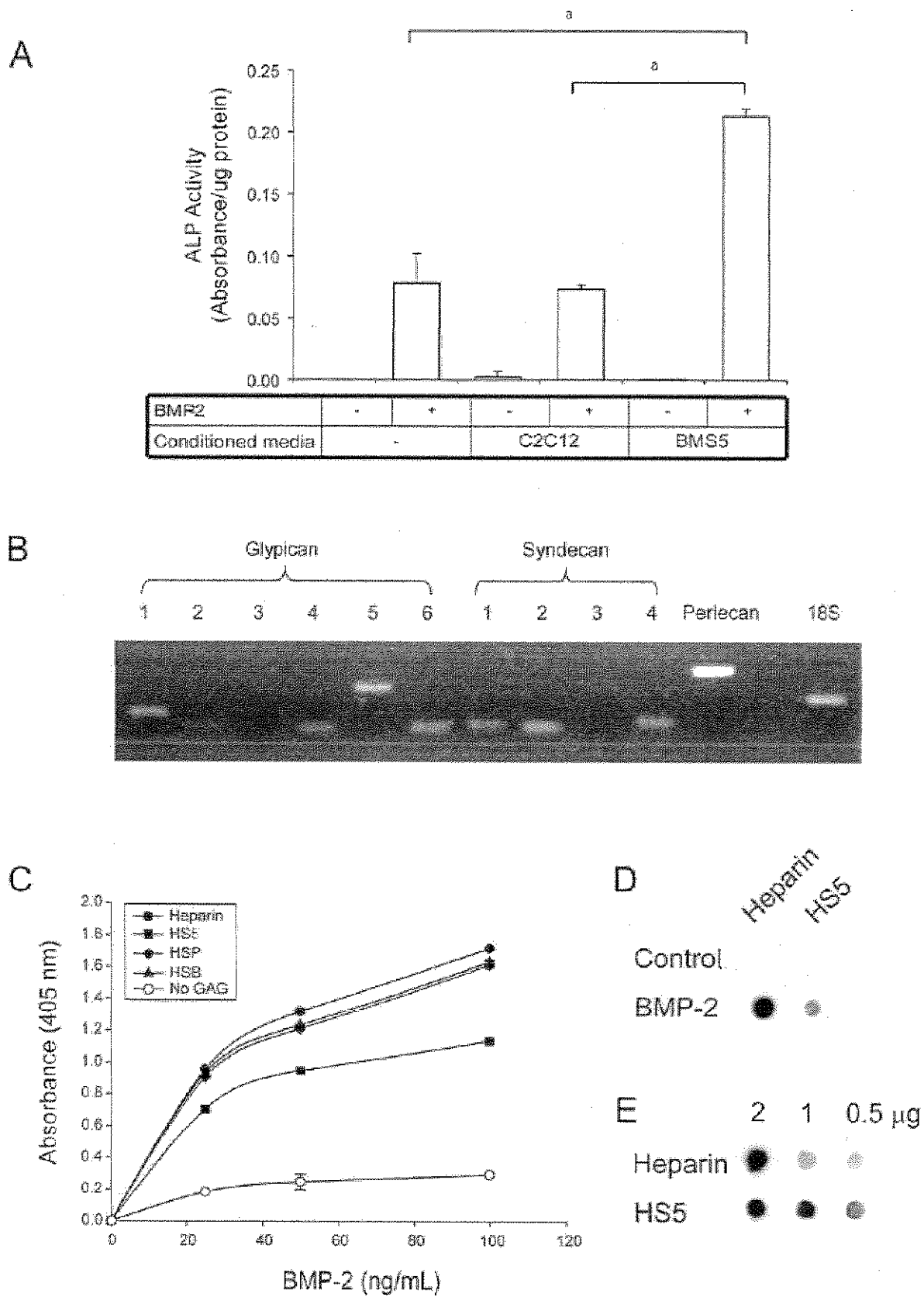


Figure 9

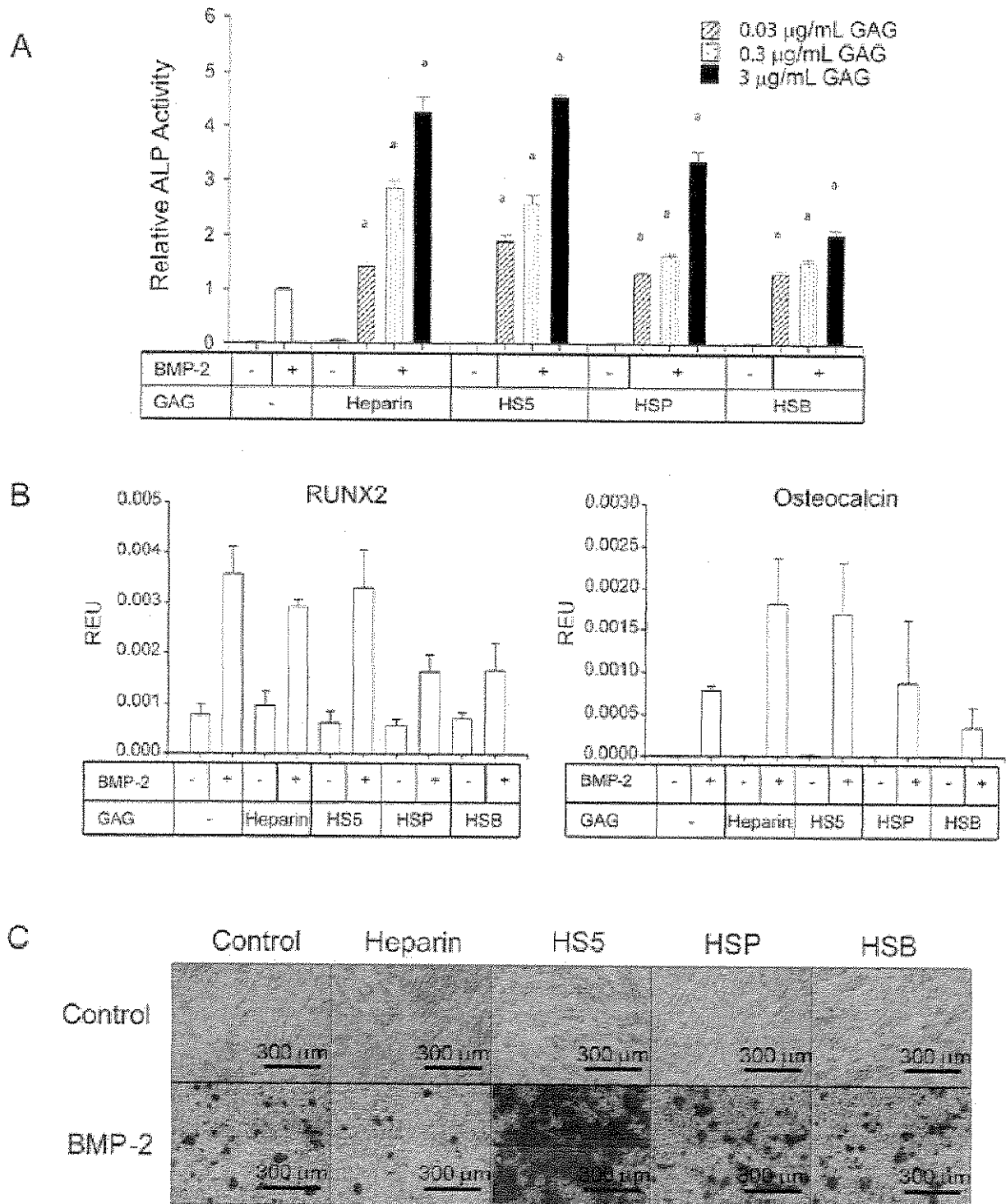
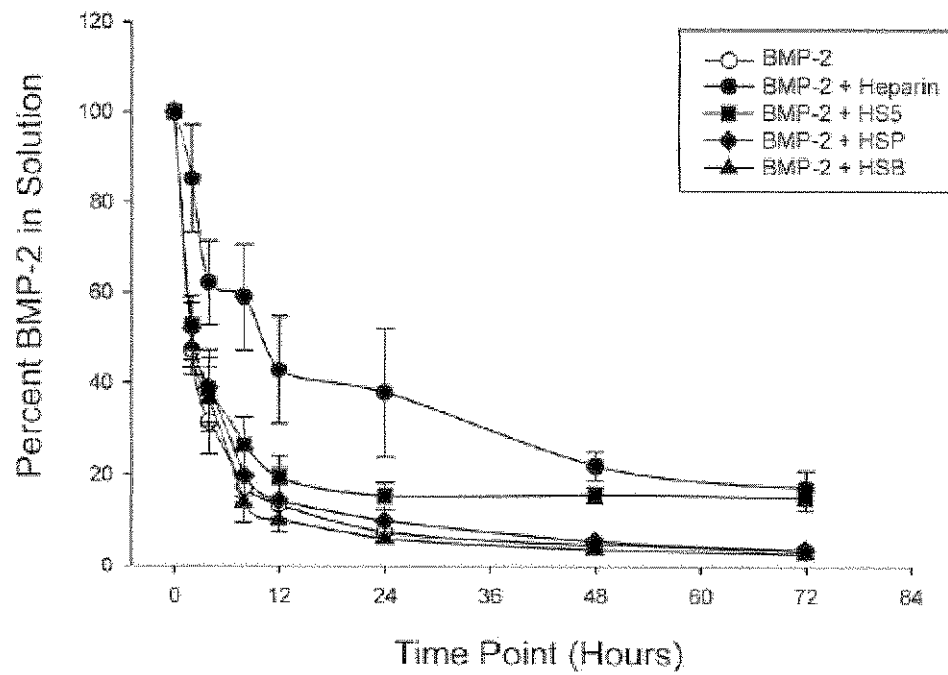


Figure 10

A



B

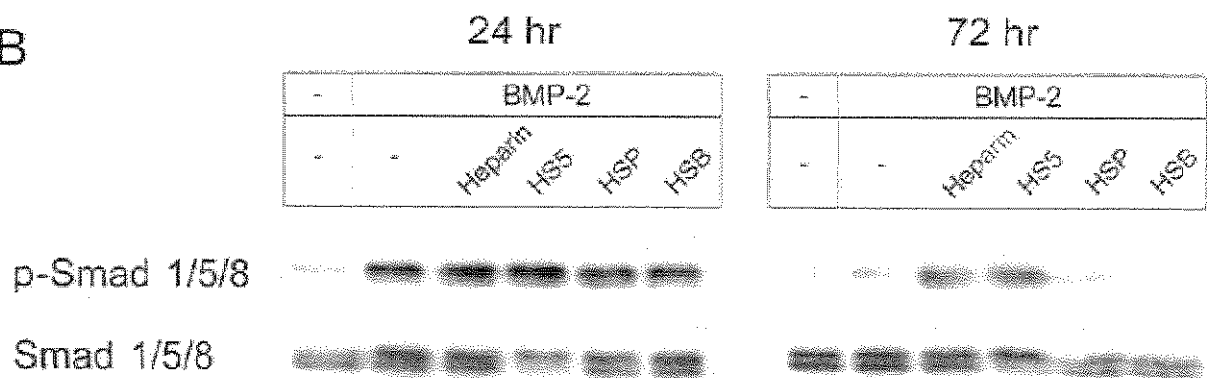
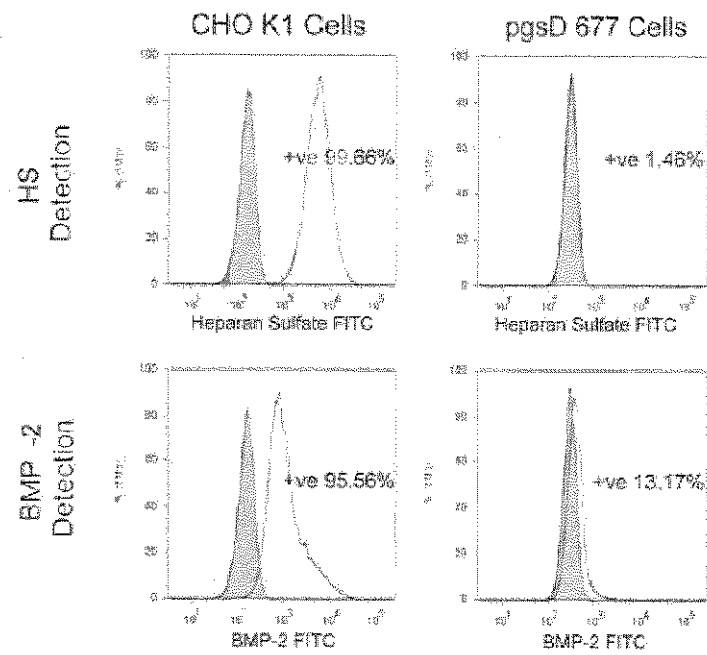


Figure 11

A



B

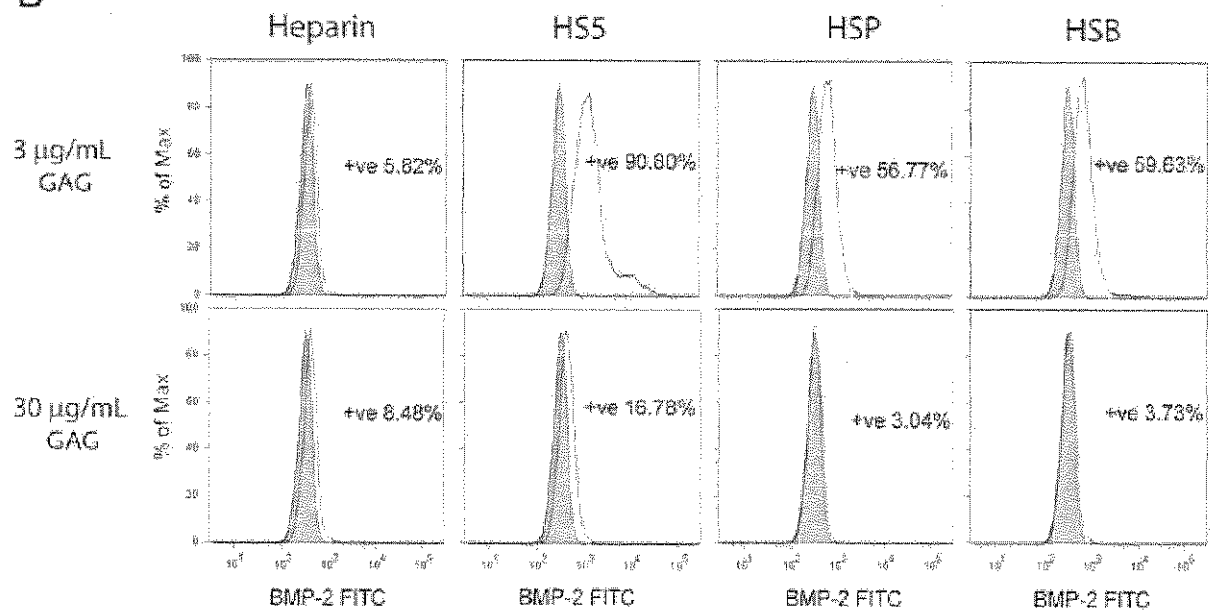


Figure 12

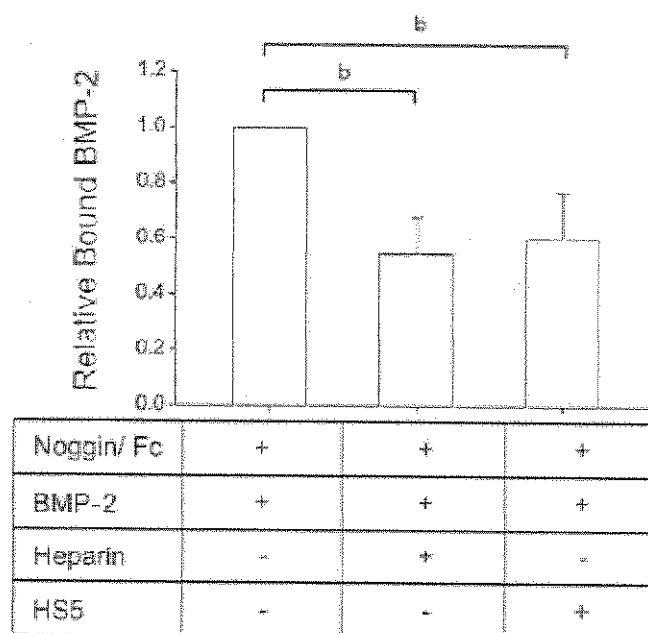
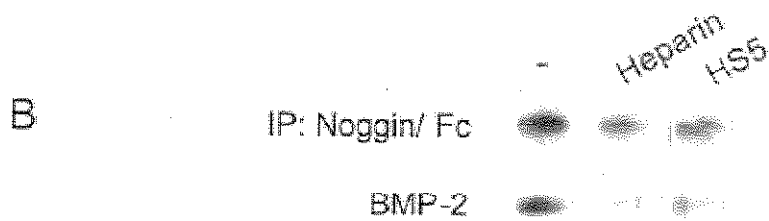
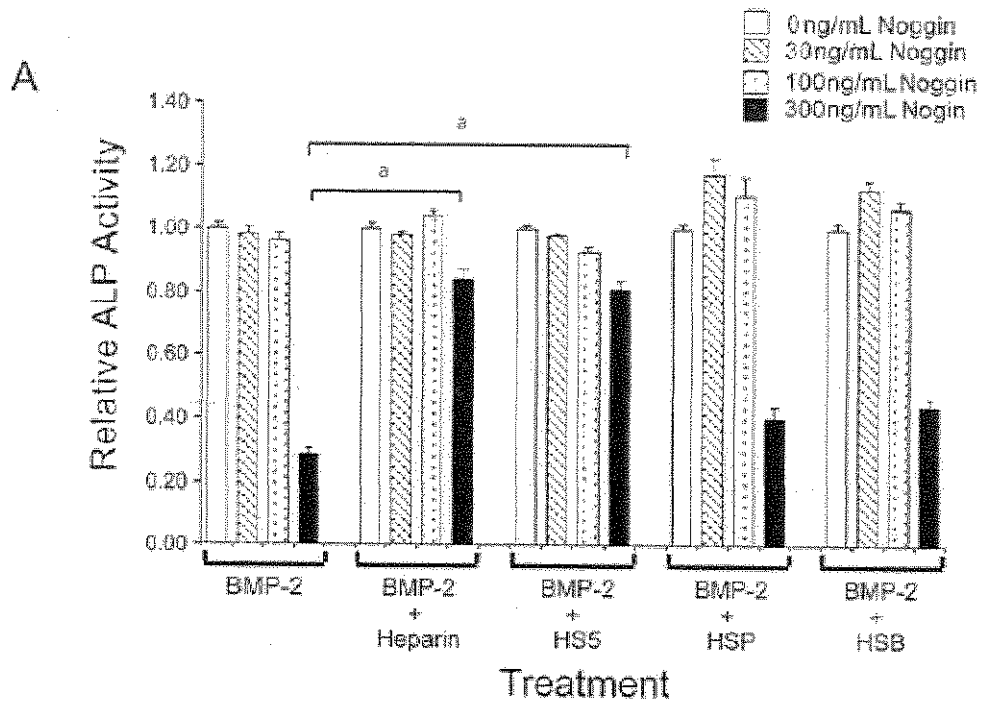


Figure 13

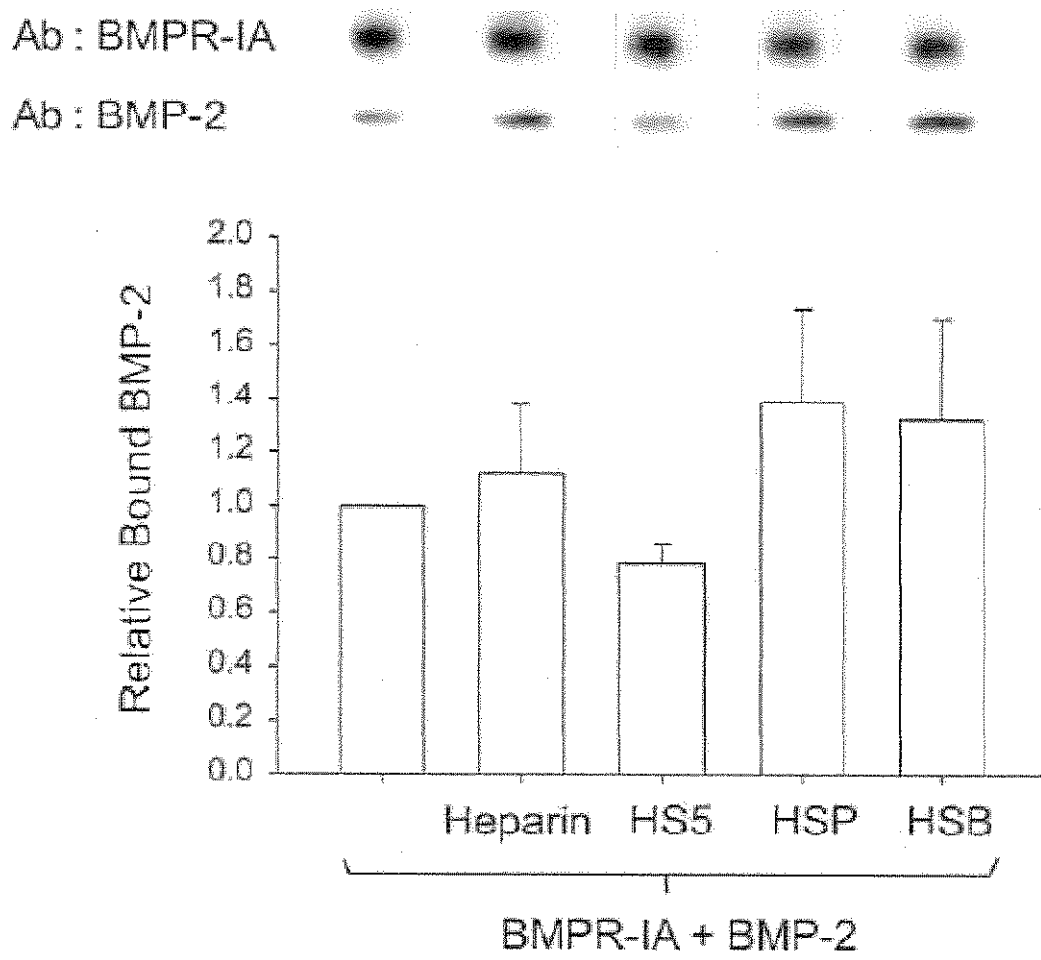


Figure 14

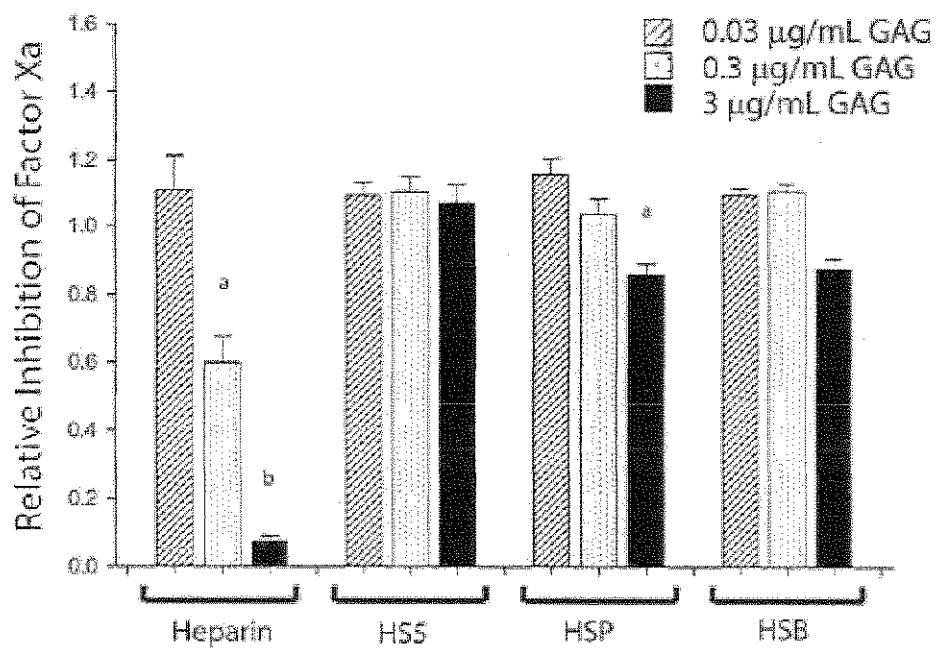
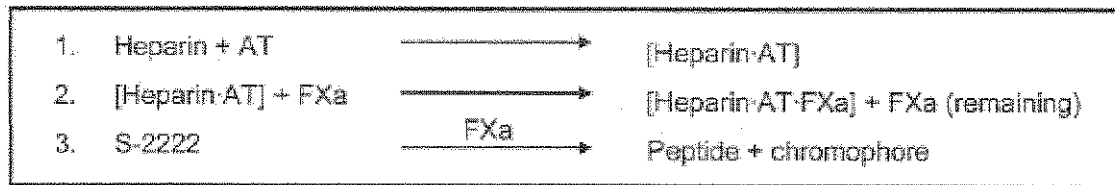


Figure 15

Table 3. Disaccharide percentage composition of HS5*.

No.	Disaccharide Standards	% Composition
1	Δ HexUA – GlcN	22.11
2	Δ HexUA-GlcNAc	n.d.
3	Δ HexUA – GlcN,6S	38.79
4	Δ HexUA,2S – GlcN	n.d.
5	Δ HexUA – GlcNS	4.20
6	Δ HexUA – GlcNAc,6S	4.53
7	Δ HexUA,2S – GlcNAc	n.d.
8	Δ HexUA,2S – GlcN,6S	n.d.
9	Δ HexUA – GlcNS,6S	n.d.
10	Δ HexUA,2S – GlcNS	n.d.
11	Δ HexUA,2S – GlcNAc,6S	n.d.
12	Δ HexUA,2S – GlcNS,6S	n.d.
13	Unknown	30.37

n.d., not detected

*The area under each peak identified in the HPLC analysis was compared with the disaccharide standards to calculate the percentage composition of each disaccharides.

Δ HexUA: uronic acid; GlcN: glucosamine; GlcNAc: N-acetyl-glucosamine; GlcNS: N-sulfated-glucosamine; 6S: 6O-sulfation; 2S: 2O-sulfation.

Figure 16

1 MVAGTRCOLLA LLLPQVLLGG AAGLVPPELGR RKFAAASSGR PSSQPSDEVL SEFELRLLSM
61 FGLKQRPTPS RDAVVPYML DLYRRHSGQP GSPAPDHRLE RAASRANTVR SFHHEESLEE
121 LPETSGKTTR RFFFNLSIP TEEFITSDEL QVFREQMDA LGNNSSFHHR INIYEIKPA
181 TANSKEFPVTR LLDTRLVNQN ASRWESFDVT PAVMRWTAQG HANHGFEVVEV AHLEEKQGV
241 KRHVRISSRL HQDEHSWSQI RPLLVTFGHD GKGHPLHKRE KRQAKHKQRK RLKSSCKRHP
411 LYVDFSDVGW NDWVAPPGY HAFYCHGECF FPLADHLNST NHAIVQTLVN SVNSKIPKAC
361 CVPTELSAIS MLYLDENEKV VLKNYQDMV EGGGCR

Figure 17

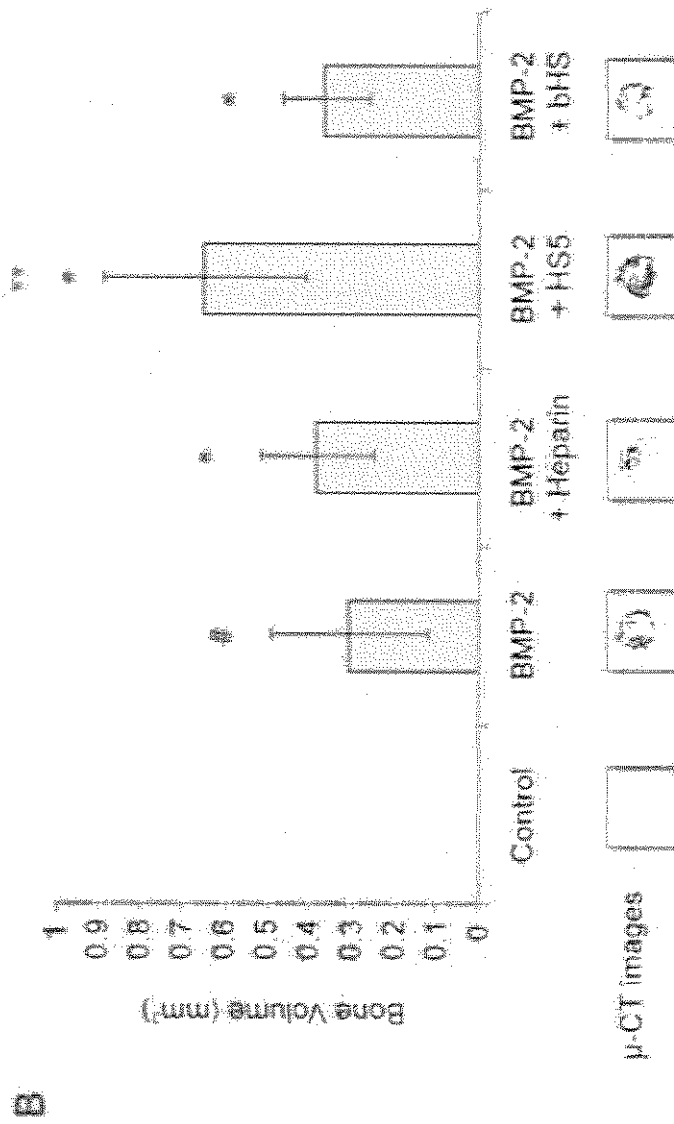


Figure 18

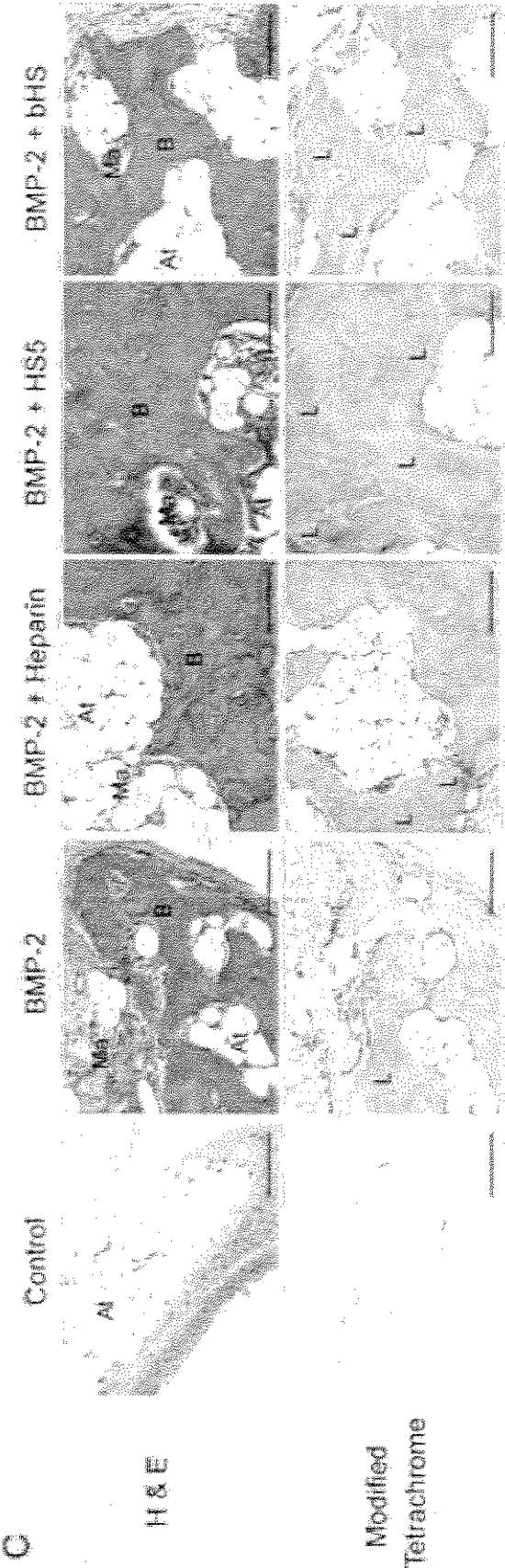


Figure 18 Continued