FIG. 1

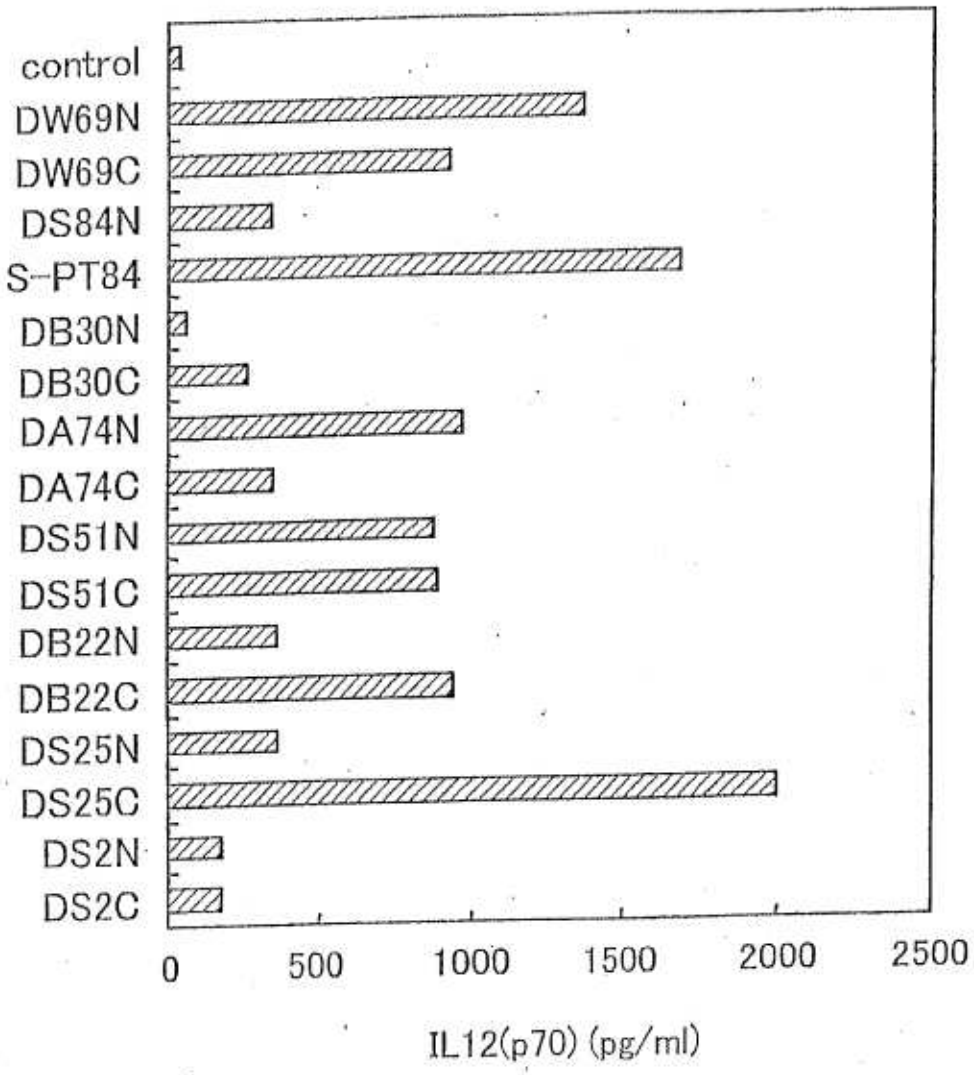

control
DW69N
DW69C
DS84N
S-PT84
DB30N
DB30C
DA74N
DA74C
DS51N
DS51C
DB22N
DB22C
DS25N
DS25C
DS2N
DS2C
0
500
1000
1500
2000
2500
IL12(p70) (pg/ml)

FIG. 2

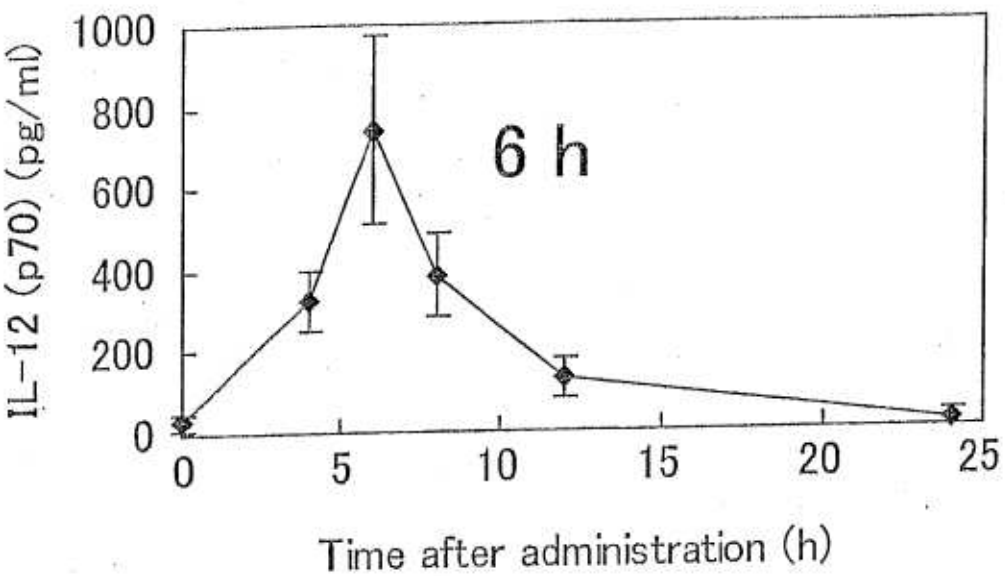

IL-12 (p70) (pg/ml)
1000
800
600
400
200
0
6 h
0
5
10
15
20
25
Time after administration (h)

FIG. 3

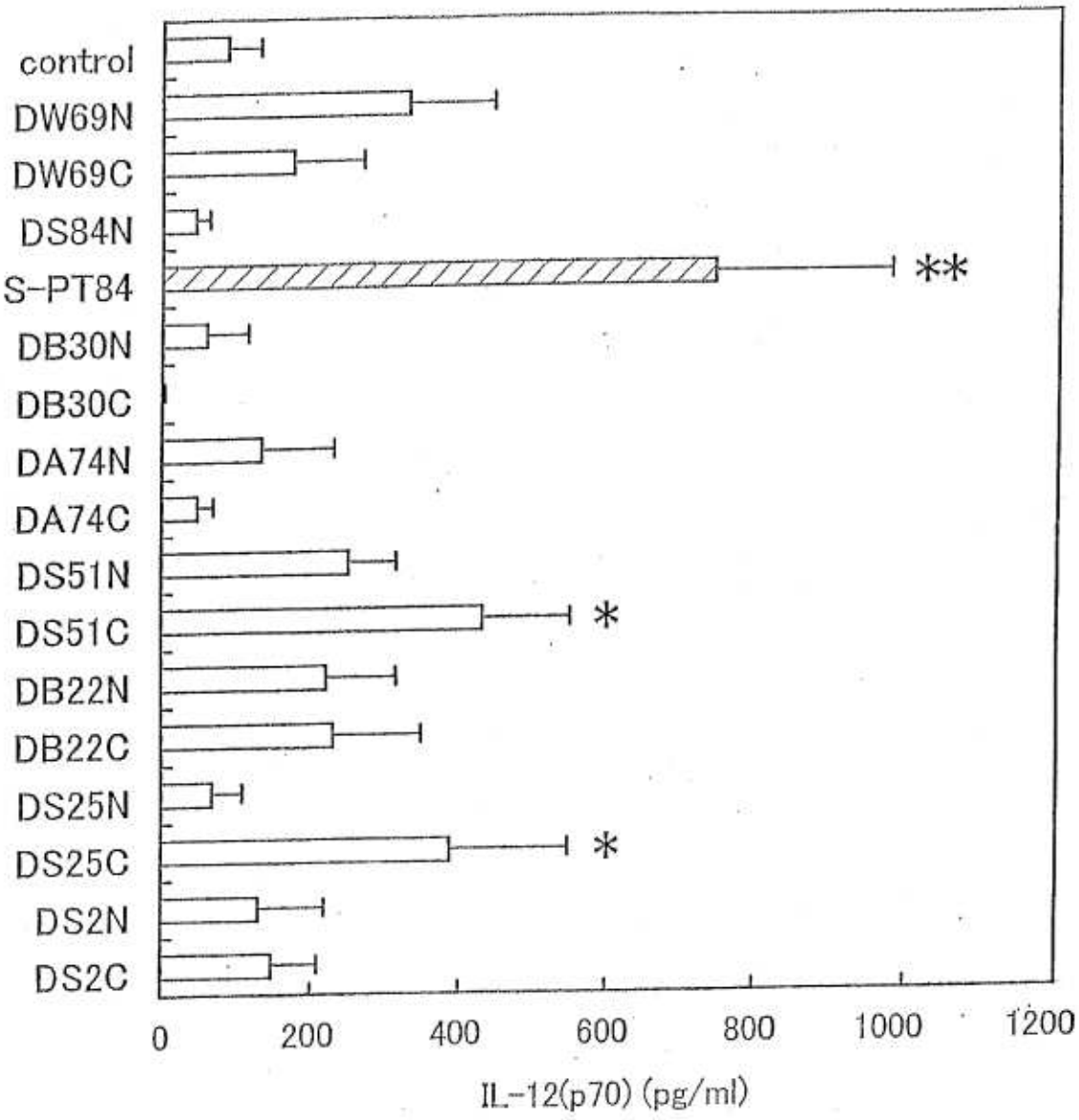

control
DW69N
DW69C
DS84N
S-PT84
DB30N
DB30C
DA74N
DA74C
DS51N
DS51C
DB22N
DB22C
DS25N
DS25C
DS2N
DS2C
**
*
*
0
200
400
600
800
1000
1200
IL-12(p70) (pg/ml)

FIG. 4(a)

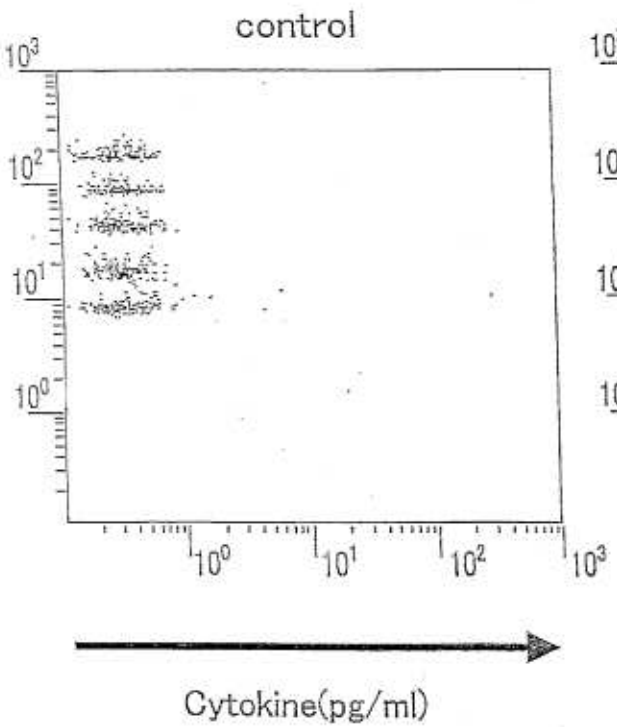


FIG. 4(b)

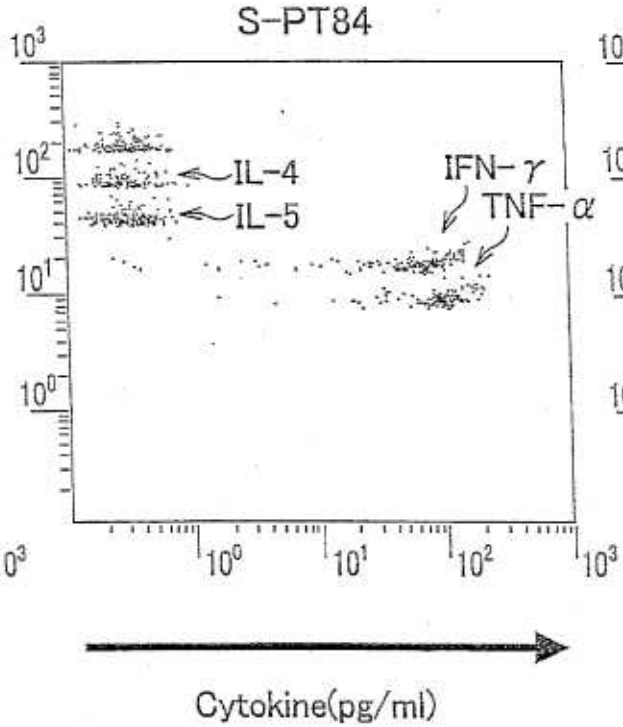


FIG. 4(c)

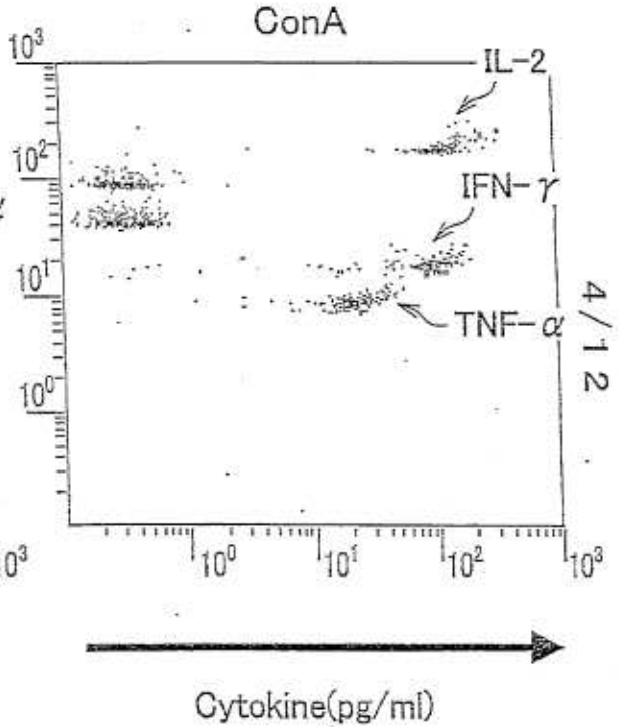


FIG. 5 (a)

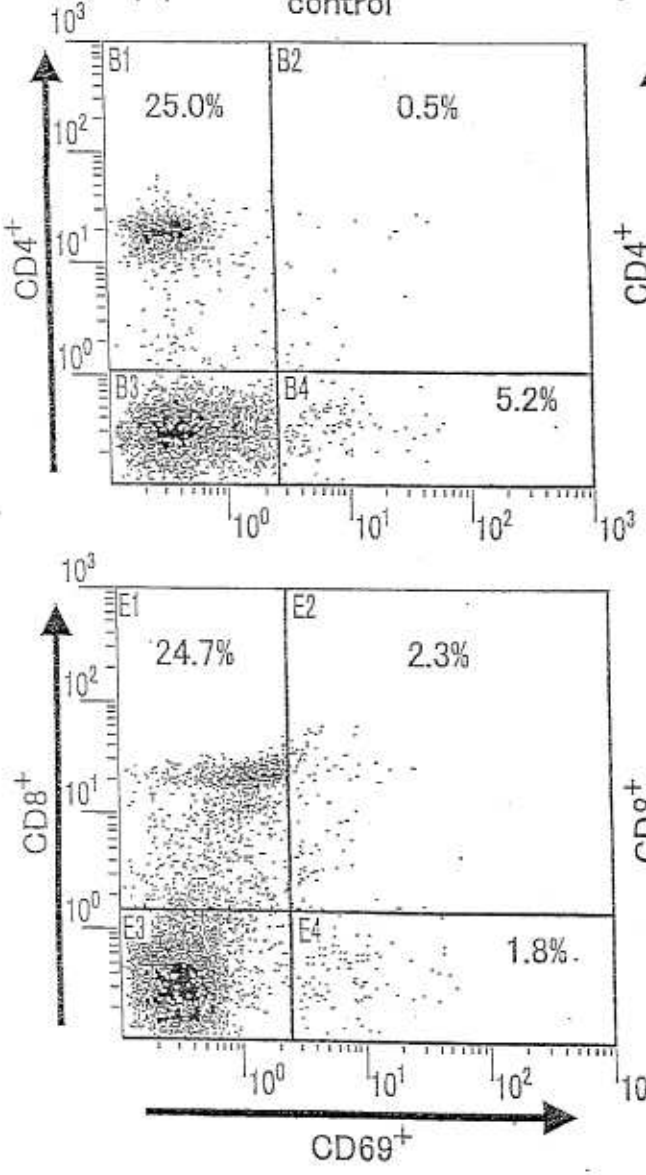


FIG. 5 (b)

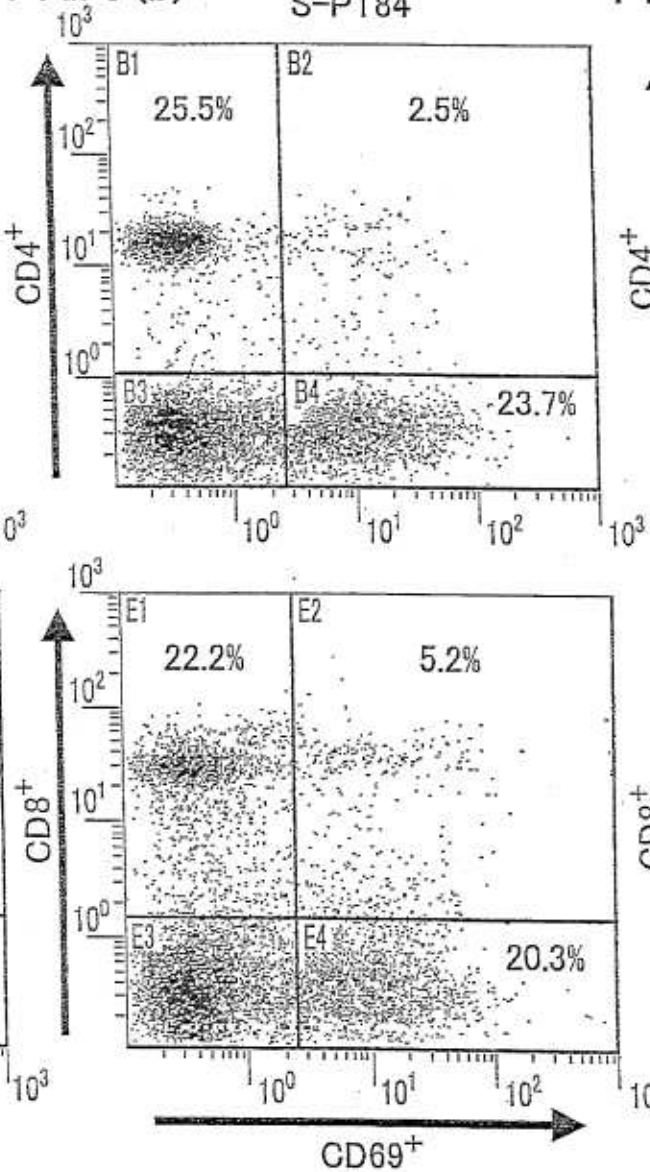


FIG. 5 (c)

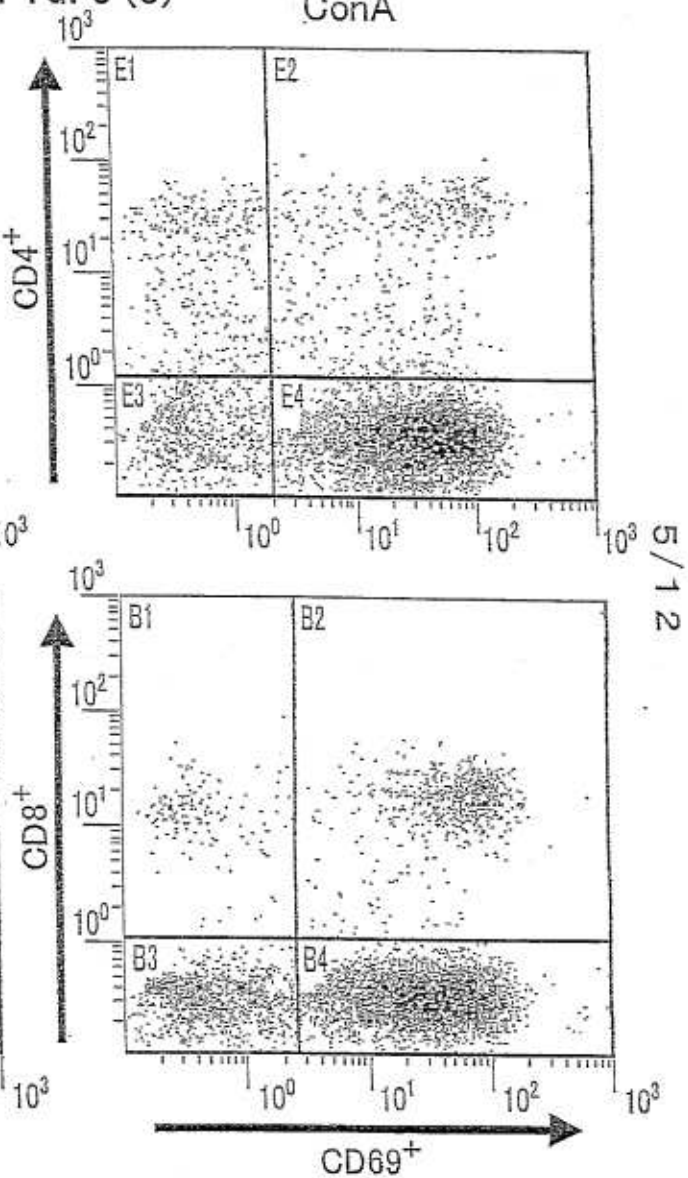


FIG. 6

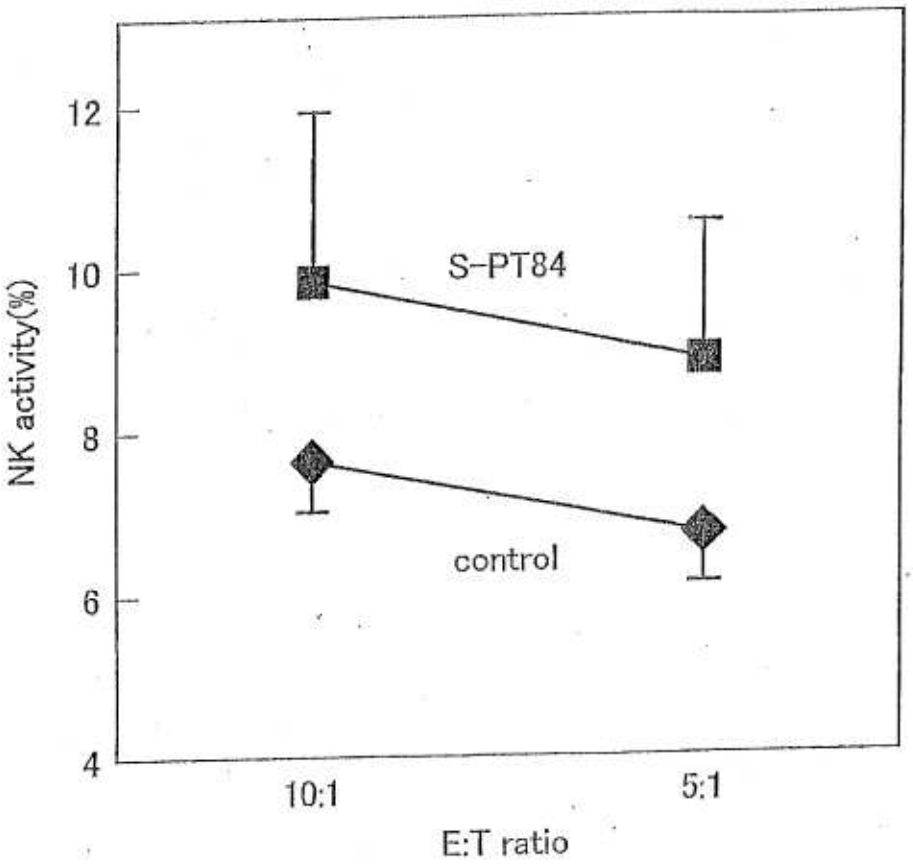


FIG. 7(a)

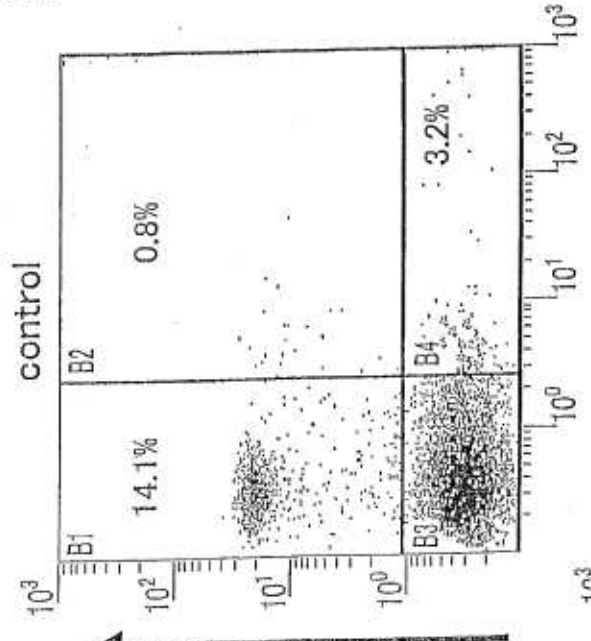

control
B1
B2
B3
B4
14.1%
0.8%
3.2%
CD4+
E1
E2
E3
E4
10.5%
1.5%
5.1%
CD8+
CD69+

FIG. 7(b)

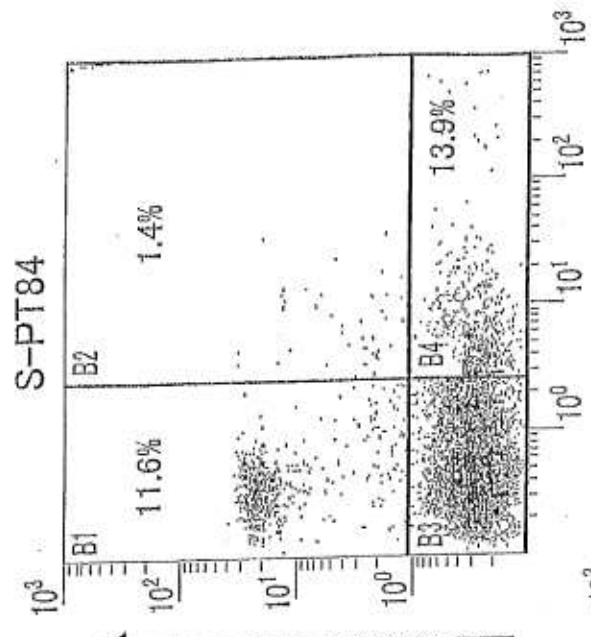

S-PT84
B1
B2
B3
B4
11.6%
1.4%
13.9%
CD4+
E1
E2
E3
E4
23.4%
7.5%
12.9%
CD8+
CD69+

FIG. 8

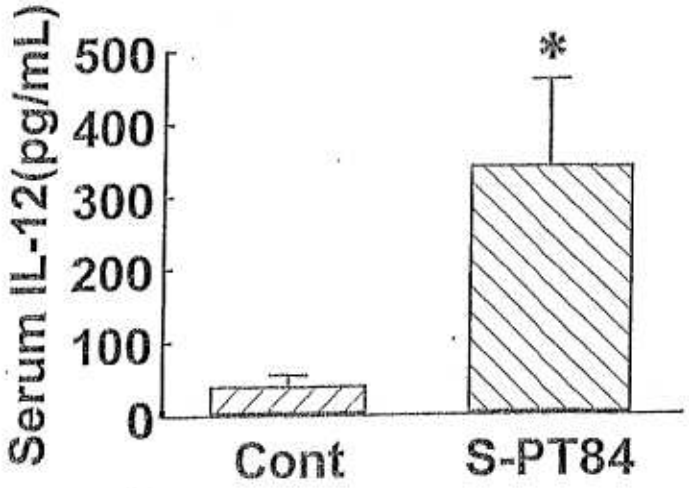


FIG. 9

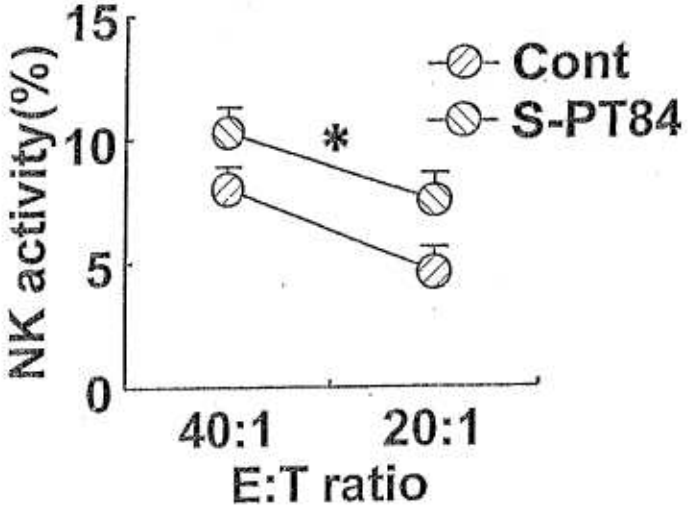


FIG. 10

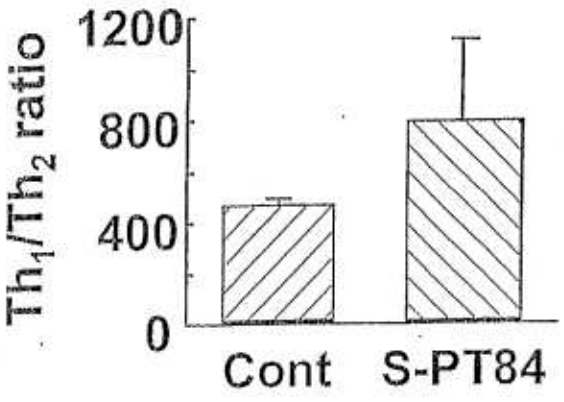


FIG. 11

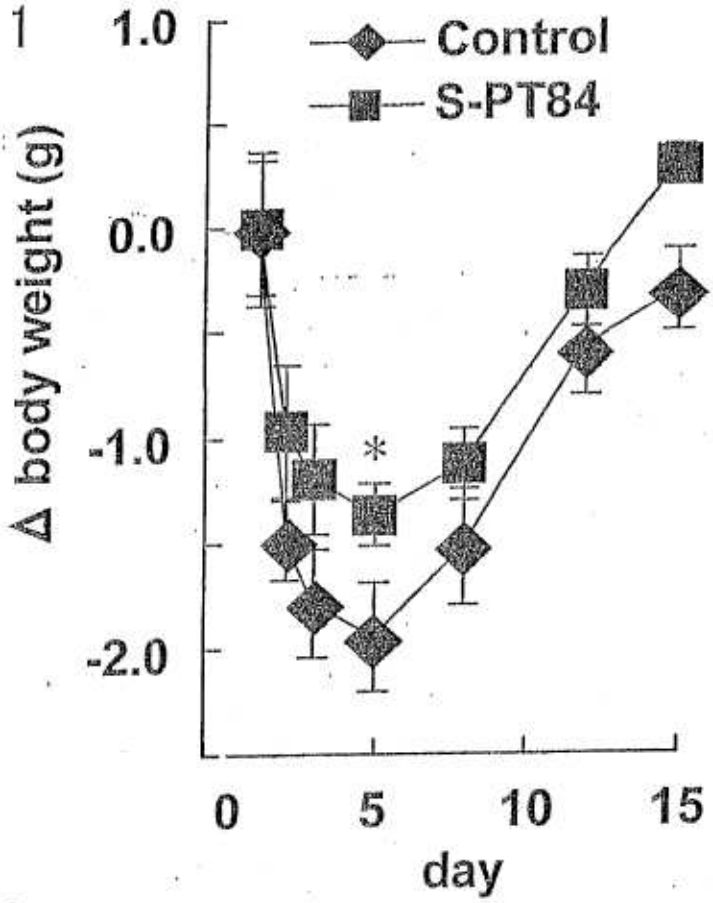
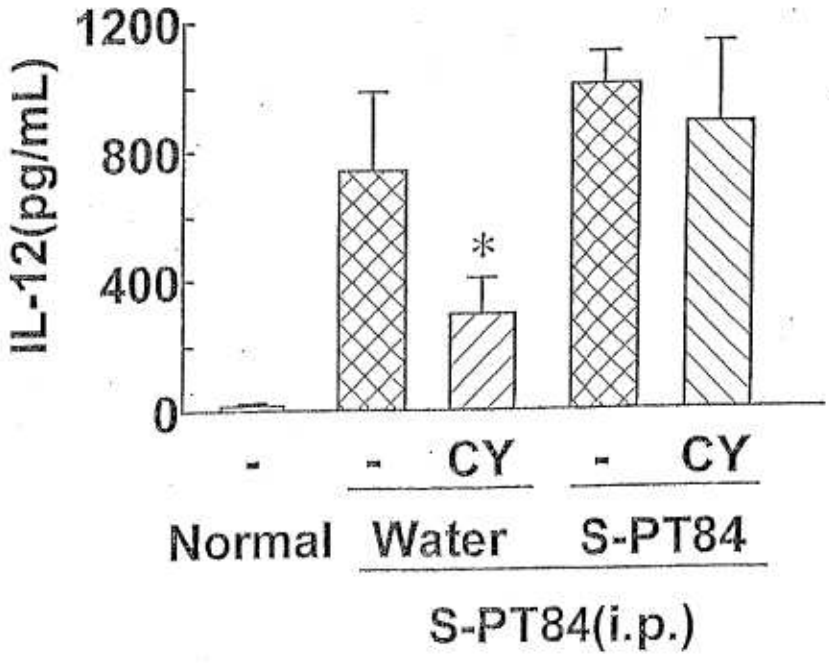


FIG. 12



* : P<0.05 vs CY+S-PT84+S-PT84

FIG. 13

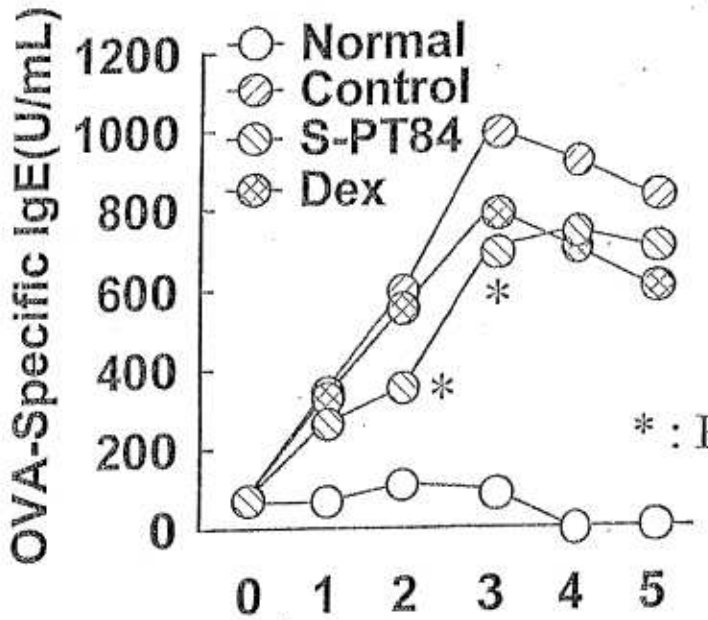

OVA-Specific IgE(U/mL)
1200
1000
800
600
400
200
0
Normal
Control
S-PT84
Dex
*
*
0 1 2 3 4 5
* : P<0.05 vs Control

FIG. 14

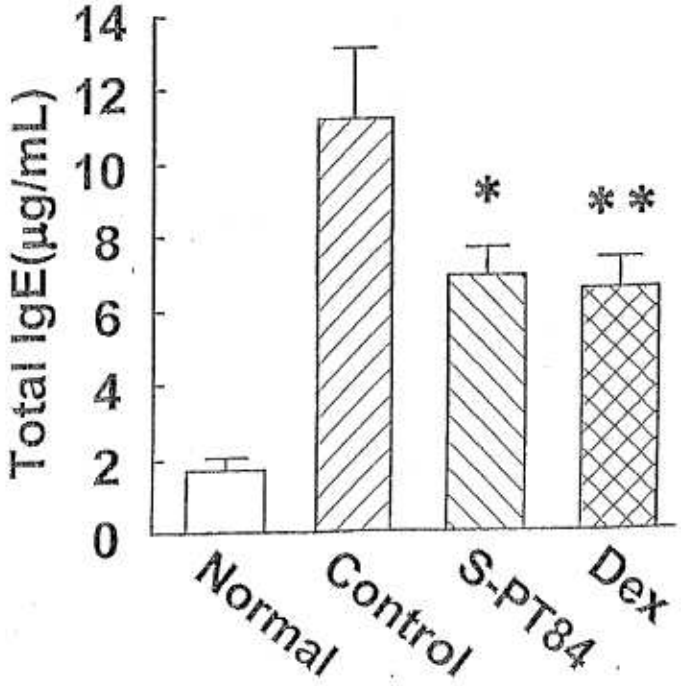

Total IgE(μg/mL)
14
12
10
8
6
4
2
0
*
**
Normal
Control
S-PT84
Dex

FIG. 15

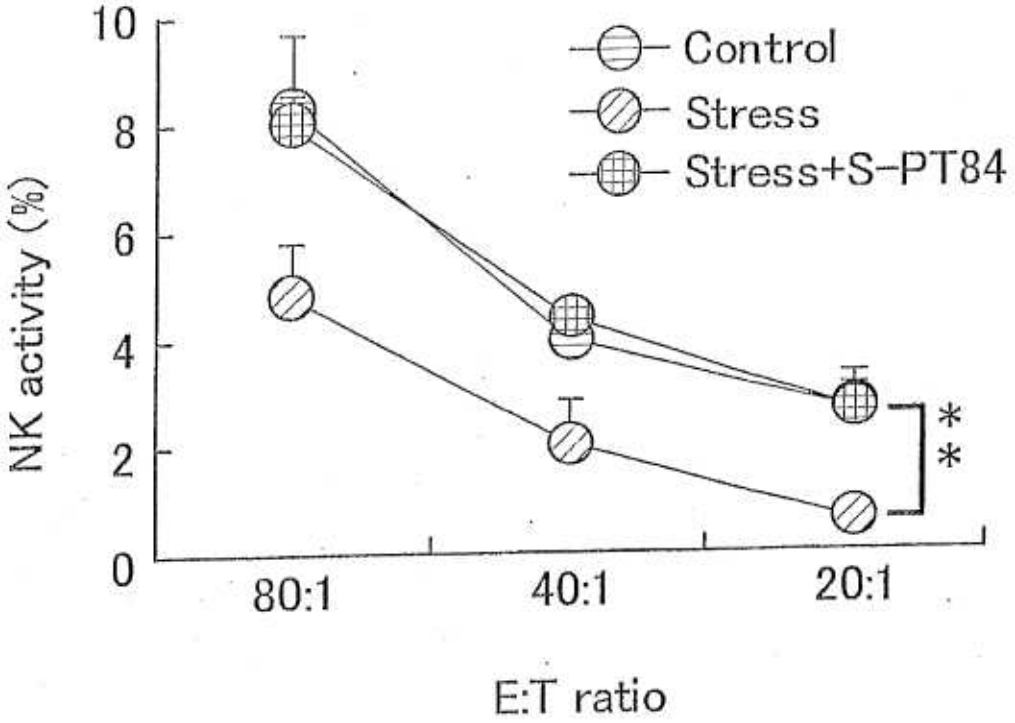
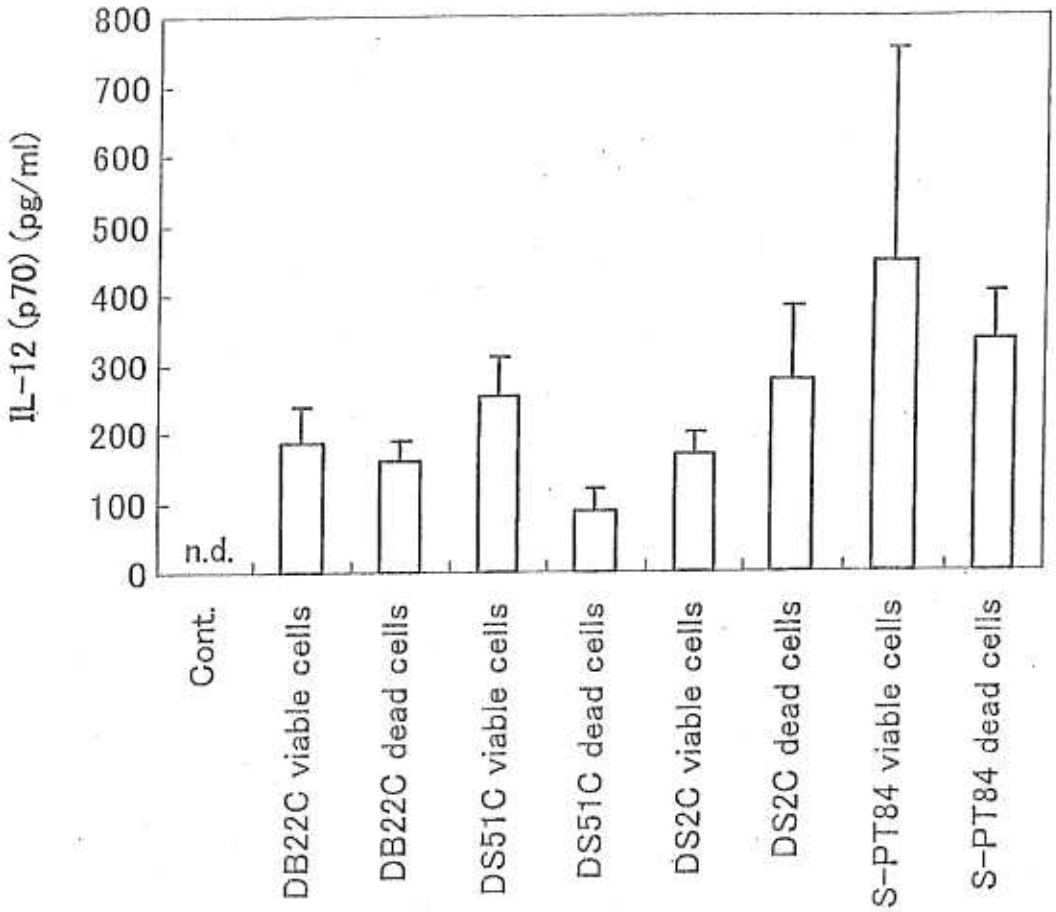

10
8
6
4
2
0
NK activity (%)
Control
Stress
Stress+S-PT84
**
80:1
40:1
20:1
E:T ratio

FIG. 16


IL-12 (p70) (pg/ml)
800
700
600
500
400
300
200
100
0
n.d.
Cont.
DB22C viable cells
DB22C dead cells
DS51C viable cells
DS51C dead cells
DS2C viable cells
DS2C dead cells
S-PT84 viable cells
S-PT84 dead cells

SEQUENCE LISTING

<110> Suntory Limited

<120> A Composition Having Immunoregulating Activities Comprising Lactobacillus Pentosus

<130> FP2005-040

<140> PCT/JP2005/006585
<141> 2005-03-29

<150> JP 2004-159461
<151> 2004-05-28

<160> 1

<170> PatentIn Ver. 2.1

<210> 1
<211> 1519
<212> DNA
<213> Lactobacillus pentosus

<400> 1
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tgcccagaag cgggggataa cacctggaaa cagatgctaa taccgcataa caacttggac 180
cgcatggtcc gagtttgaaa gatggcttcg gctatcactt ttggatggtc ccgcggcgta 240
ttagctagat ggtggggtaa cggctcacca tggcaatgat acgtagccga cctgagaggg 300
taatcggcca cattgggact gagacacggc ccaaactcct acgggaggca gcagtaggga 360
atcttccaca atggacgaaa gtctgatgga gcaacgccgc gtgagtgaag aagggtttcg 420
gctcgtaaaa ctctgttgtt aaagaagaac atatctgaga gtaactgttc aggtattgac 480
ggtatttaac cagaaagcca cggctaacta cgtgccagca gccgcggtaa tacgtaggtg 540
gcaagcgttg tccggattta ttgggcgtaa agcgagcgca ggcggttttt taagtctgat 600
gtgaaagcct tcggctcaac cgaagaagtg catcggaaac tgggaaactt gagtgcagaa 660
gaggacagtg gaactccatg tgtagcggtg aaatgcgtag atatatggaa gaacaccagt 720
ggcgaaggcg gctgtctggt ctgtaactga cgctgaggct cgaaagtatg ggtagcaaac 780
aggattagat accctggtag tccataccgt aaacgatgaa tgctaagtgt tggagggttt 840
ccgcccttca gtgctgcagc taacgcatta agcattccgc ctggggagta cggccgcaag 900
gctgaaactc aaaggaattg acgggggccc gcacaagcgg tggagcatgt ggtttaattc 960
gaagctacgc gaagaacctt accaggtctt gacatactat gcaaatctaa gagattagac 1020
gttcccttcg gggacatgga tacaggtggt gcatggttgt cgtcagctcg tgtcgtgaga 1080
tgttgggtta agtcccgcaa cgagcgcaac ccttattatc agttgccagc attaagttgg 1140
gcactctggt gagactgccg gtgacaaacc ggaggaaggt ggggatgacg tcaaatcatc 1200
atgcccctta tgacctgggc tacacacgtg ctacaatgga tggtacaacg agttgcgaac 1260
tcgcgagagt aagctaatct cttaaagcca ttctcagttc ggattgtagg ctgcaactcg 1320
cctacatgaa gtcggaatcg ctagtaatcg cggatcagca tgccgcggtg aatacgttcc 1380
cgggccttgt acacaccgcc cgtcacacca tgagagtttg taacacccaa agtcggtggg 1440
gtaacctttt aggaaccagc cgcctaaggt gggacagatg attagggtga agtcgtaaca 1500
aggtagccgt aggagaacc 1519