Fig. 1

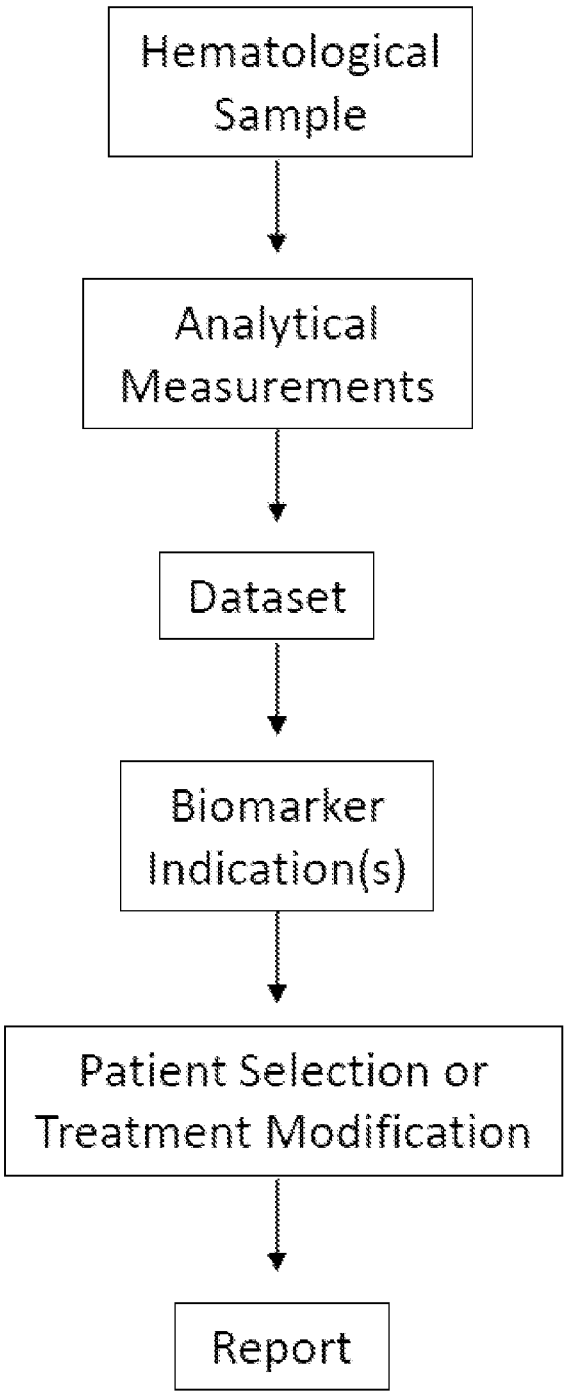

Hematological Sample
Analytical Measurements
Dataset
Biomarker Indication(s)
Patient Selection or Treatment Modification
Report

Fig. 2

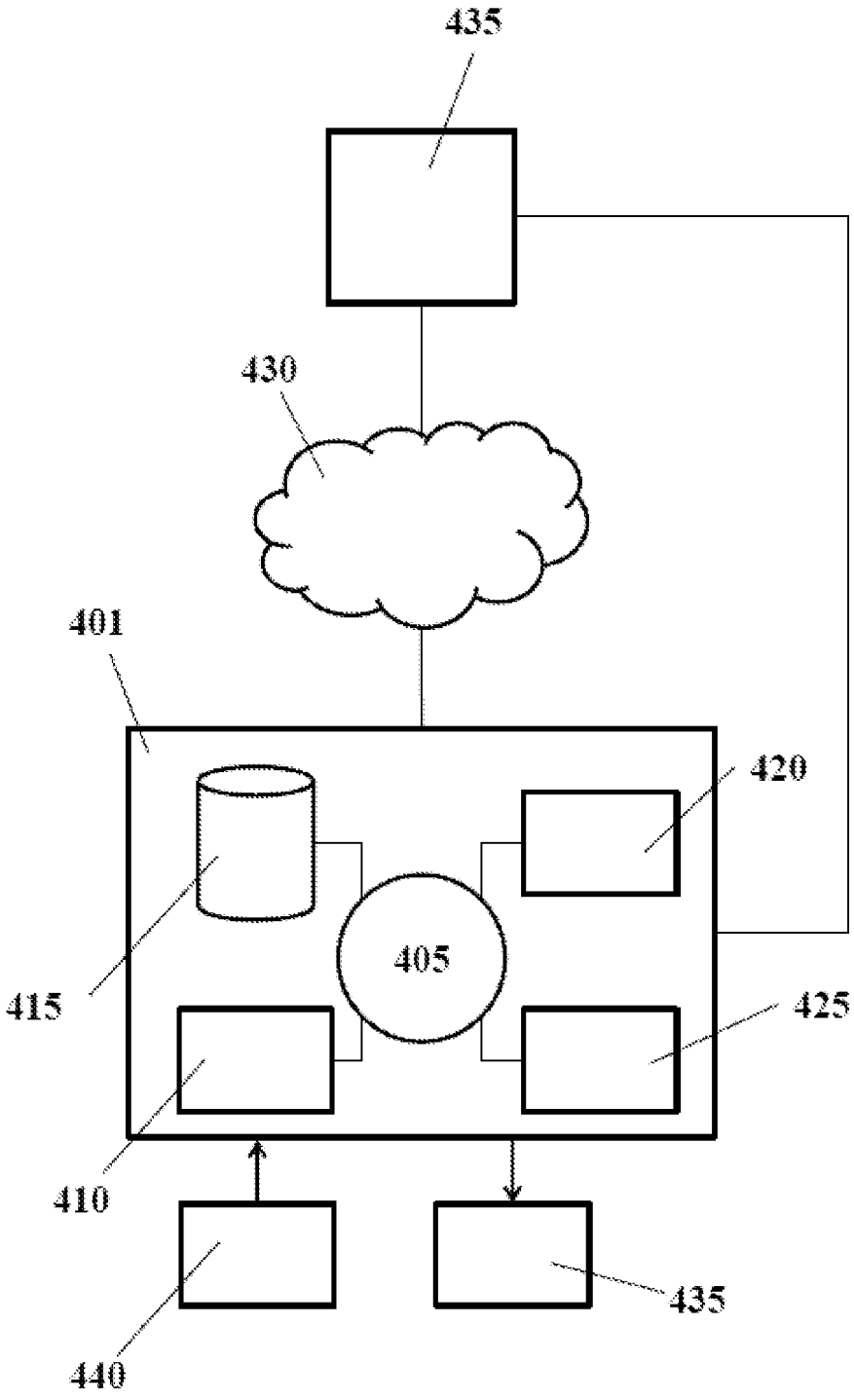


Fig. 3

Patients	04753	1106 cohort 1	1106 cohort 2
PD	5	17	6
SD	2	7	1
PR	3	4	0
CR	2	3	1

Fig. 4

			Number of patients with mutation within response group				Percentage of patients with mutation within response group			
GENE	Patients With Mutation		CR	PR	SD	PD	CR	PR	SD	PD
CDKN2A	22 (6)		3 (1)	3 (0)	5 (1)	11 (4)	0.50 (1.00)	0.43 (0.00)	0.50 (1.00)	0.39 (0.67)
CDKN2B	15 (3)		3 (1)	3 (0)	4 (1)	5 (1)	0.50 (1.00)	0.43 (0.00)	0.40 (1.00)	0.18 (0.17)
MYD88	10 (1)		3 (1)	2 (0)	2 (0)	3 (0)	0.50 (1.00)	0.29 (0.00)	0.20 (0.00)	0.11 (0.00)
PIK3C2G	8 (0)		2 (0)	1 (0)	1 (0)	4 (0)	0.33 (0.00)	0.14 (0.00)	0.10 (0.00)	0.14 (0.00)
CD79B	8 (1)		3 (1)	1 (0)	2 (0)	2 (0)	0.50 (1.00)	0.14 (0.00)	0.20 (0.00)	0.07 (0.00)
IRS2	7 (1)		2 (0)	1 (0)	1 (0)	3 (1)	0.33 (0.00)	0.14 (0.00)	0.10 (0.00)	0.11 (0.17)

Fig. 5

		Number of patients with mutation within response group				Percentage of patients with mutation within response group			
GENE	Patients With Mutation	CR	PR	SD	PD	CR	PR	SD	PD
BCL2	18 (1)	1 (0)	1 (0)	4 (0)	12 (1)	0.17 (0.00)	0.14 (0.00)	0.40 (0.00)	0.43 (0.17)
RB1	12 (4)	0 (0)	2 (0)	1 (0)	9 (4)	0.00 (0.00)	0.29 (0.00)	0.10 (0.00)	0.32 (0.67)
LRP1B	11 (4)	0 (0)	1 (0)	3 (1)	7 (3)	0.00 (0.00)	0.14 (0.00)	0.30 (1.00)	0.25 (0.50)
PIM1	8 (4)	1 (0)	0 (0)	2 (1)	5 (3)	0.17 (0.00)	0.00 (0.00)	0.20 (1.00)	0.18 (0.50)
TSC2	7 (1)	0 (0)	0 (0)	1 (1)	6 (0)	0.00 (0.00)	0.00 (0.00)	0.10 (1.00)	0.21 (0.00)
TNFRSF11A	5 (0)	0 (0)	0 (0)	0 (0)	5 (0)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.18 (0.00)
SMAD4	5 (1)	0 (0)	0 (0)	0 (0)	5 (1)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.18 (0.17)
PAX3	5 (1)	0 (0)	0 (0)	0 (0)	5 (1)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.18 (0.17)
CARD11	4 (1)	0 (0)	0 (0)	1 (1)	3 (0)	0.00 (0.00)	0.00 (0.00)	0.10 (1.00)	0.11 (0.00)

Fig. 6

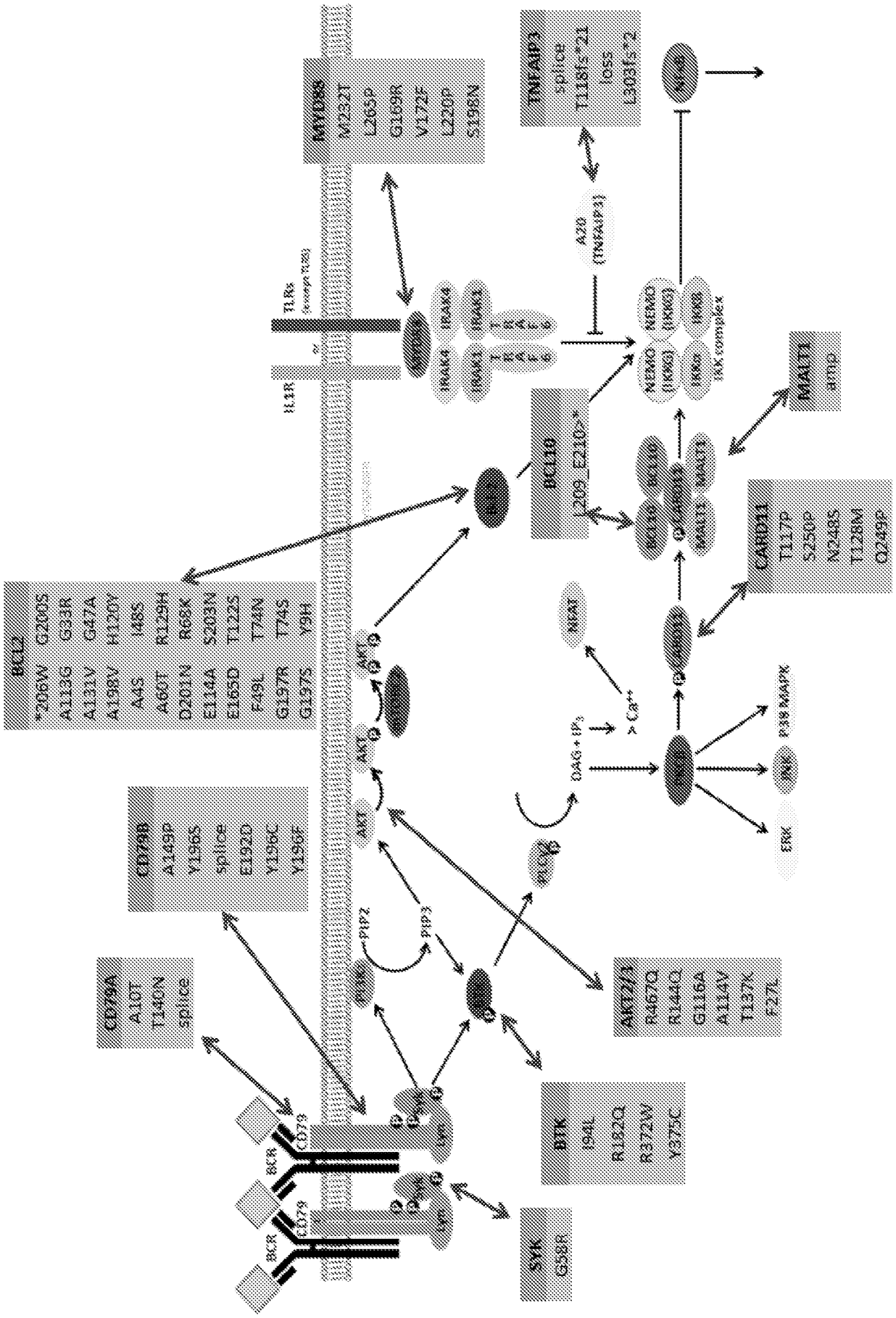

BCL2
*206W G205S
A113G G33R
A131V G47A
A138V H120Y
A4S I4S
A60T R129H
D201N R63K
E114A S203N
E165D T122S
F49L T4N
G197R T74S
G197S Y9H
CD79B
A149P
Y196S
splice
E192D
Y196C
Y196F
CD79A
A10T
T140N
splice
BTK
I94L
R182Q
R372W
Y223C
SYK
G58R
AKT1/2
R467Q
R144Q
G116A
A114V
T137K
F27L
BCL10
L209_E210>*
CARD11
T117P
S250P
N248S
T128M
Q249P
MALT1
#fup
MYD88
M232T
L265P
G169R
V172F
L220P
S198N
TNFAIP3
splice
T118fs*21
loss
E303fs*2
BCR
CD79
IgM
IgD
Lyn
Syk
PIP2
PIP3
PI3K
PDK1
AKT
mTORC2
mTORC1
DAG + IP3
> Ca++
PKC
MAPK
P38 MAPK
JNK
ERK
NFAT
TLRs
(except TLR3)
IL1R
IRAK4
IRAK1
TRAF6
A20
(TNFAIP3)
NEMO
(IKKg)
IKKa
IKKb
IKK complex
NFkB

Fig. 7

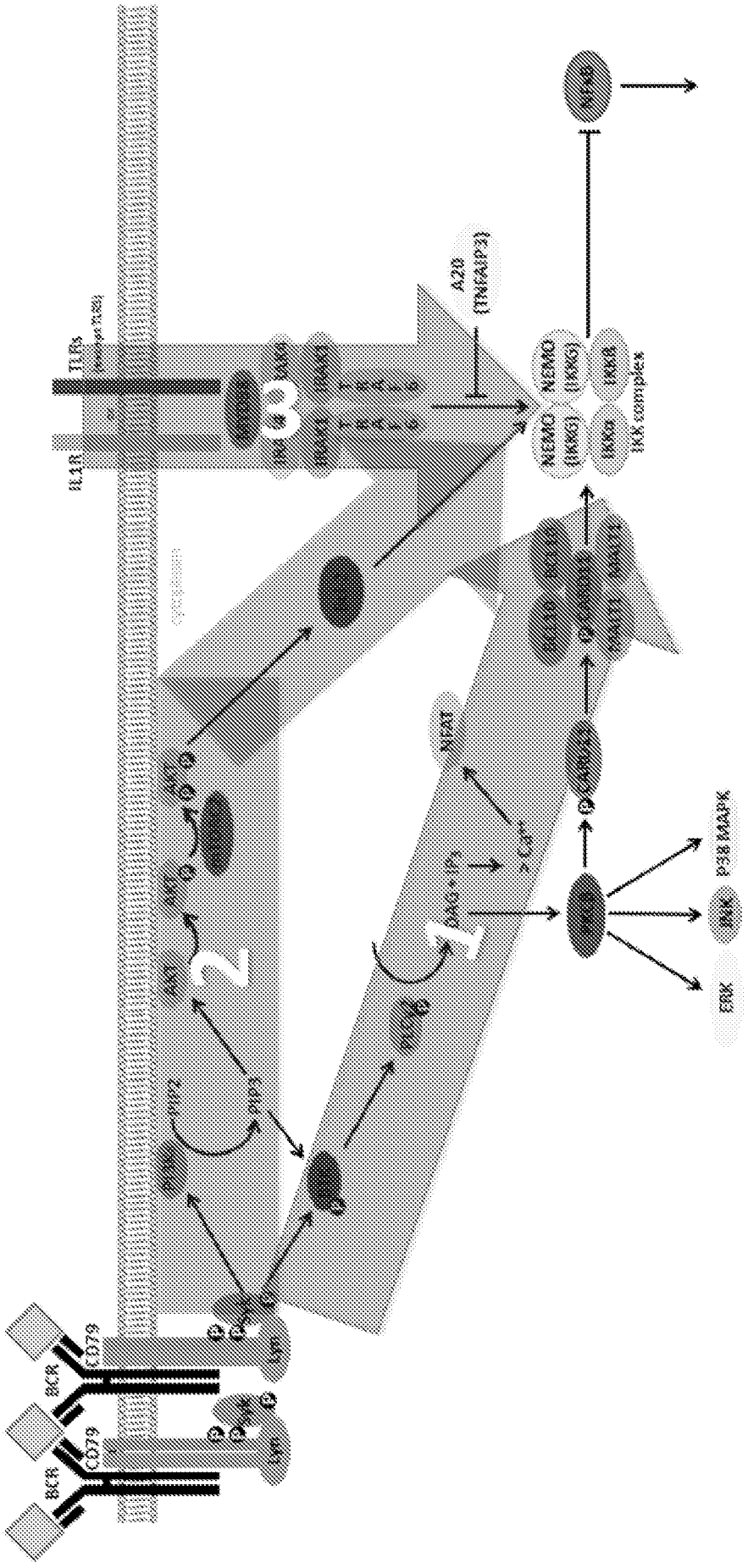

BCR
CD79
BCR
CD79
Lyn
Syk
BTK
PLCγ2
PIP3
PIP2
PKC
AKT
PI3K
2
1
DAG + IP3
+ Ca++
NFAT
3
IL1R
TLRs
MyD88
IRAK4
TRAF6
A20
(TNFAIP3)
NEMO
(IKKG)
IKKα
IKKβ
IKK complex
IκBα
NFκB
ERK
JNK
P38 MAPK

Fig. 8

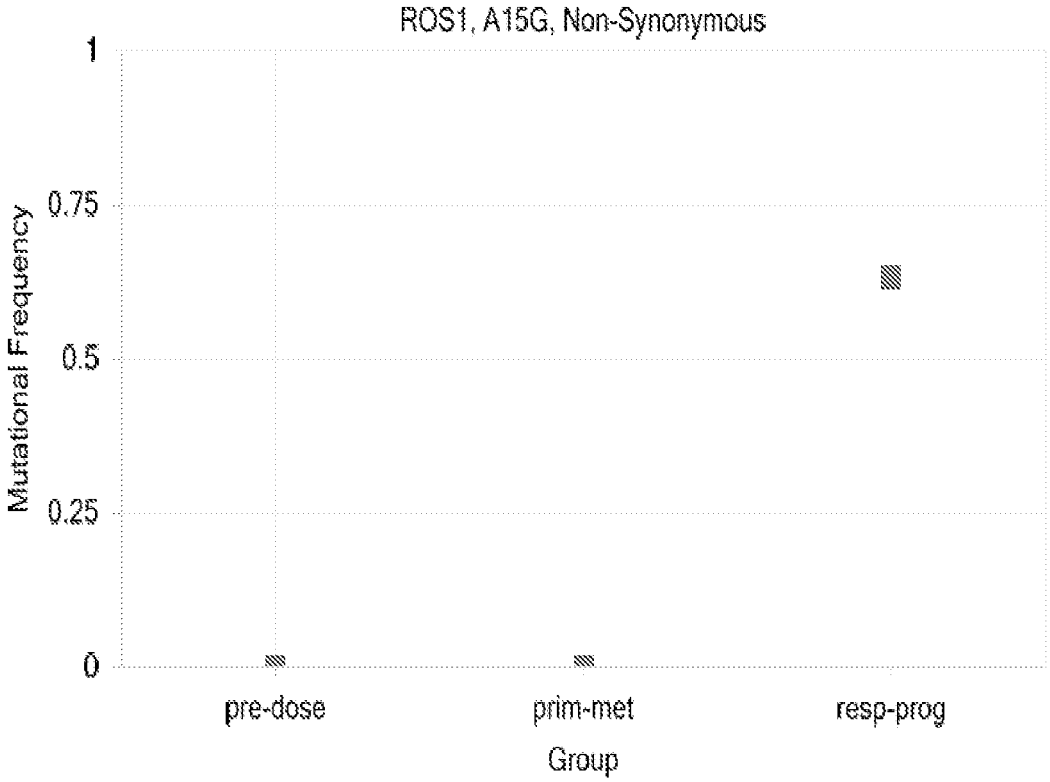


Fig. 9

Patients	1106 cohort 1	1106 cohort 2
PD	40	6
SD	7	0
PR	8	0
CR	5	1

Fig. 10A

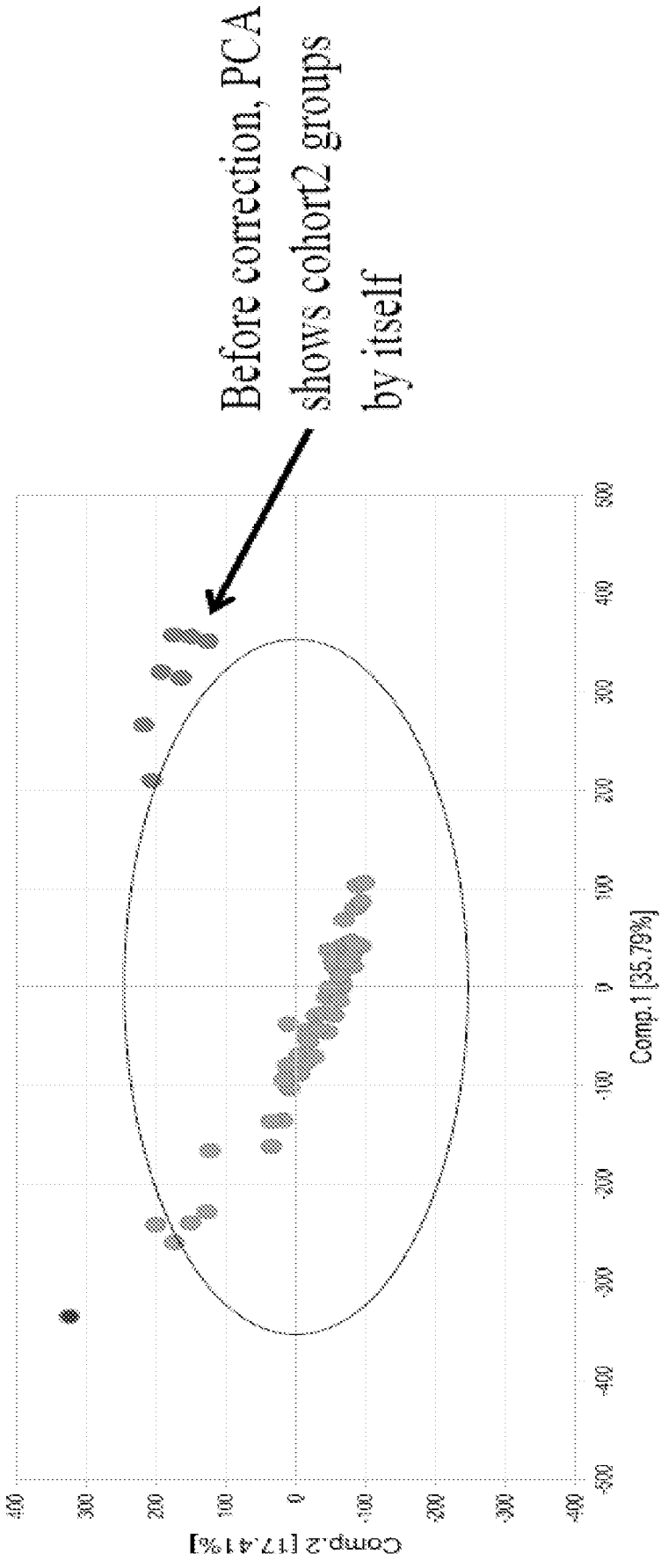

Before correction, PCA shows cohort2 groups by itself
Comp.1 [35.79%]
Comp.2 [17.41%]
500
400
300
200
100
0
-100
-200
-300
-400
-500

Fig. 10B

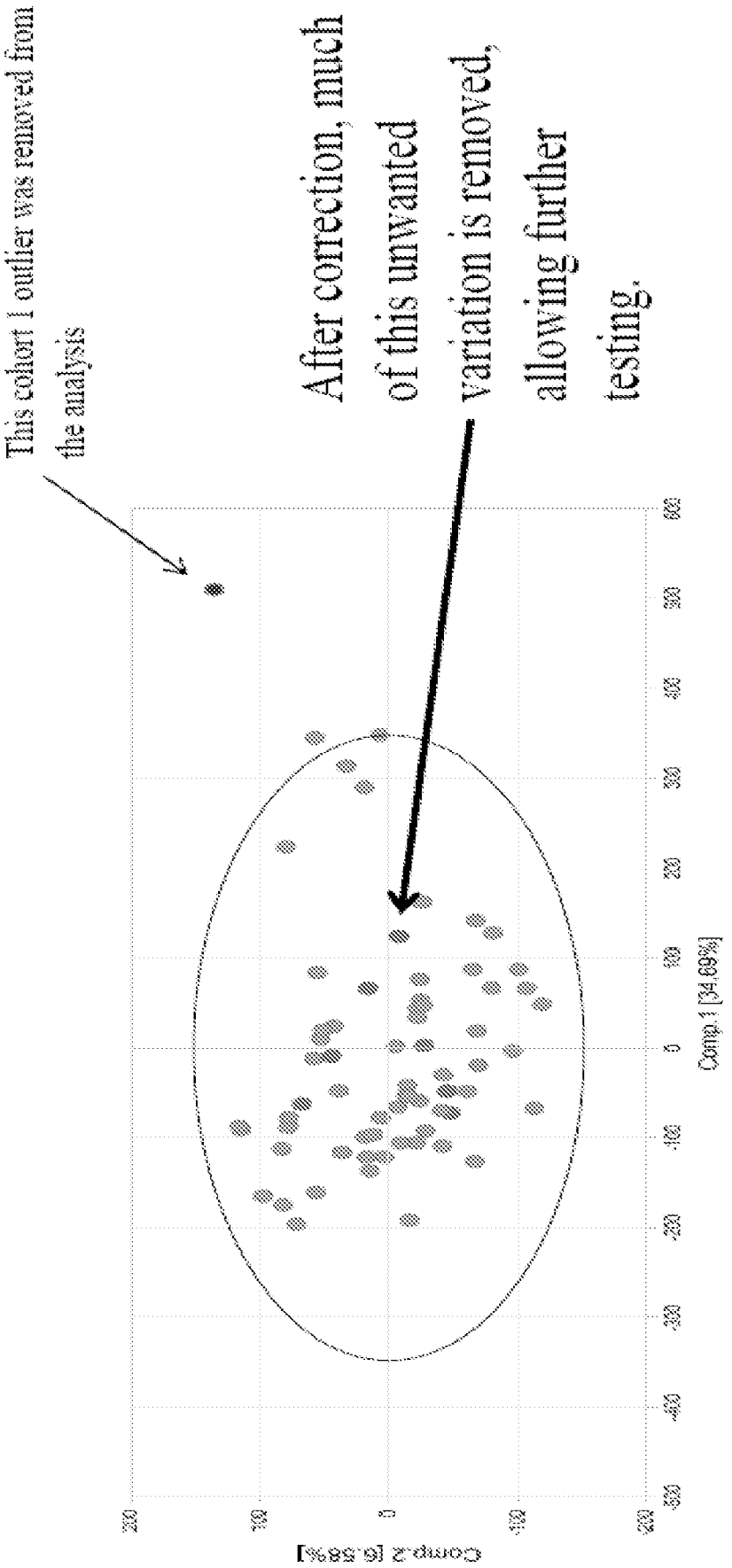

This cohort 1 outlier was removed from the analysis
After correction, much of this unwanted variation is removed, allowing further testing.
Comp.1 [34.69%]
Comp.2 [6.58%]

Fig. 11

probe set id	PD	CR	log2 Fold Change	Fold Change	p-value	Gene Symbol	Gene Title
202274_at	7.9606	10.9094	2.9488	7.7208	0.0007	ACTG2	actin, gamma 2, smooth muscle, enteric
207720_at	7.5604	10.1126	2.5522	5.8654	0.0021	LOR	loricrin
1552386_at	5.462	7.8929	2.4309	5.3924	0.0007	GAPT	GRB2-binding adaptor protein, transmembrane
200951_s_at	10.5899	12.857	2.2671	4.8135	0.0021	CCND2	cyclin D2
204563_at	9.4702	11.5313	2.0611	4.173	0.005	SELL	selectin L
1557267_s_at	5.9565	7.9548	1.9983	3.9953	0.0012	GEN1	Gen endonuclease homolog 1 (Drosophila)
1552760_at	6.0665	8.0561	1.9897	3.9715	0.0033	HDAC9	histone deacetylase 9
208438_s_at	9.1015	8.1604	-0.9411	-1.92	0.0072	FGR	Gardner-Rasheed feline sarcoma viral (v-fgr) oncogene homolog
215118_s_at	10.2659	8.2396	-2.0263	-4.0735	0.005	IGHA1	Immunoglobulin heavy constant alpha 1

Fig. 12A

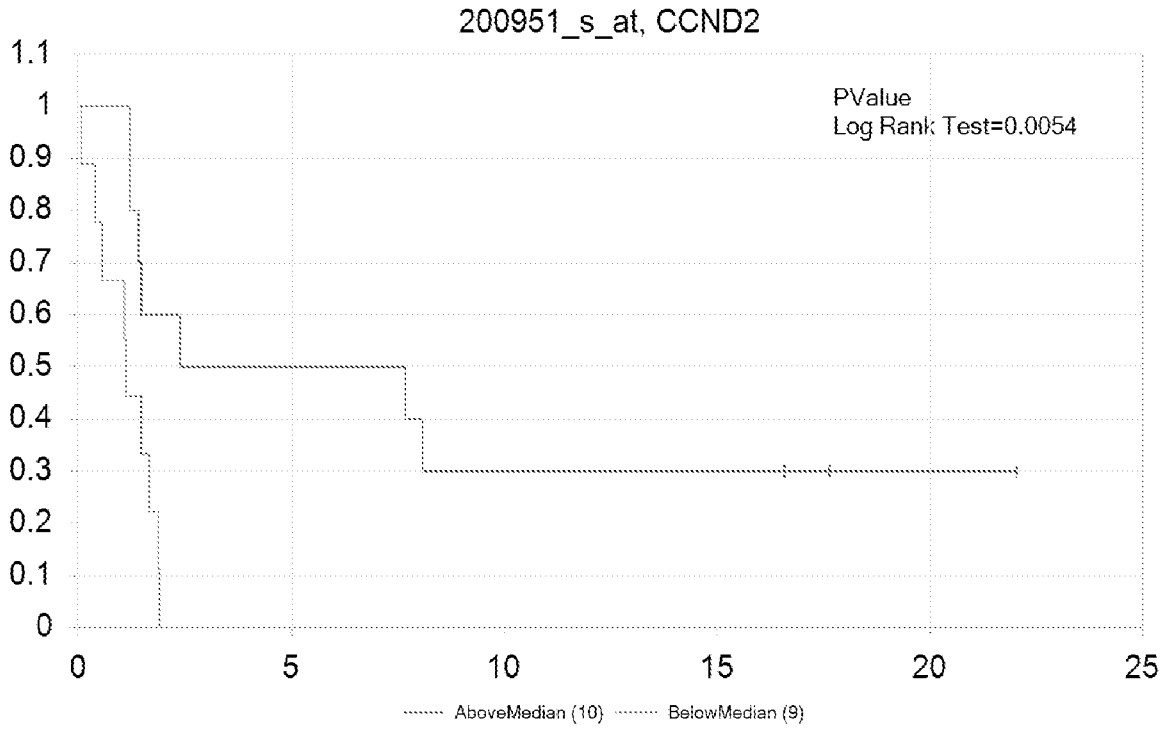


Fig. 12B

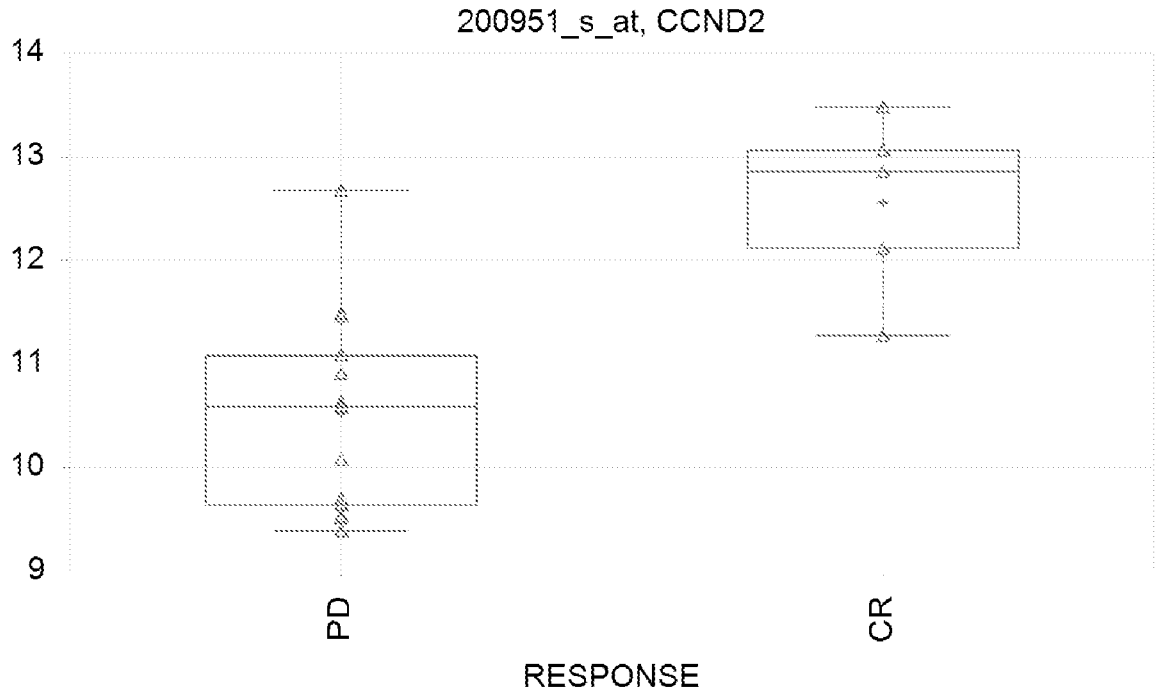


Fig. 12C

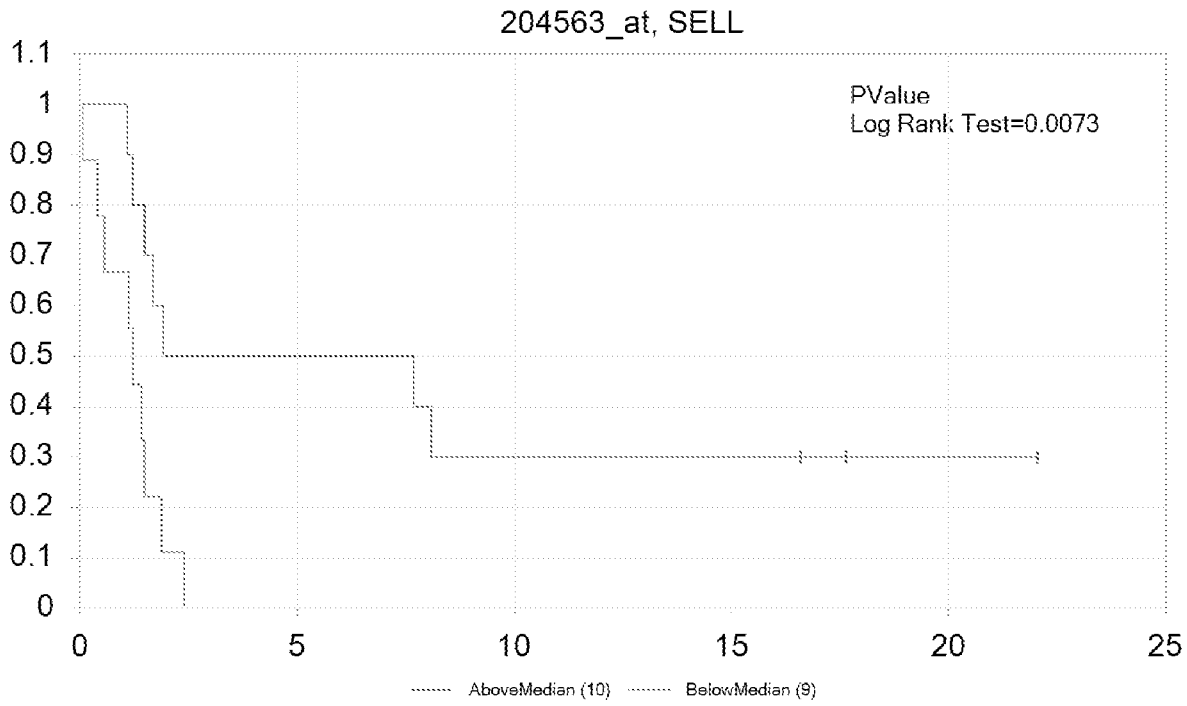


Fig. 12D

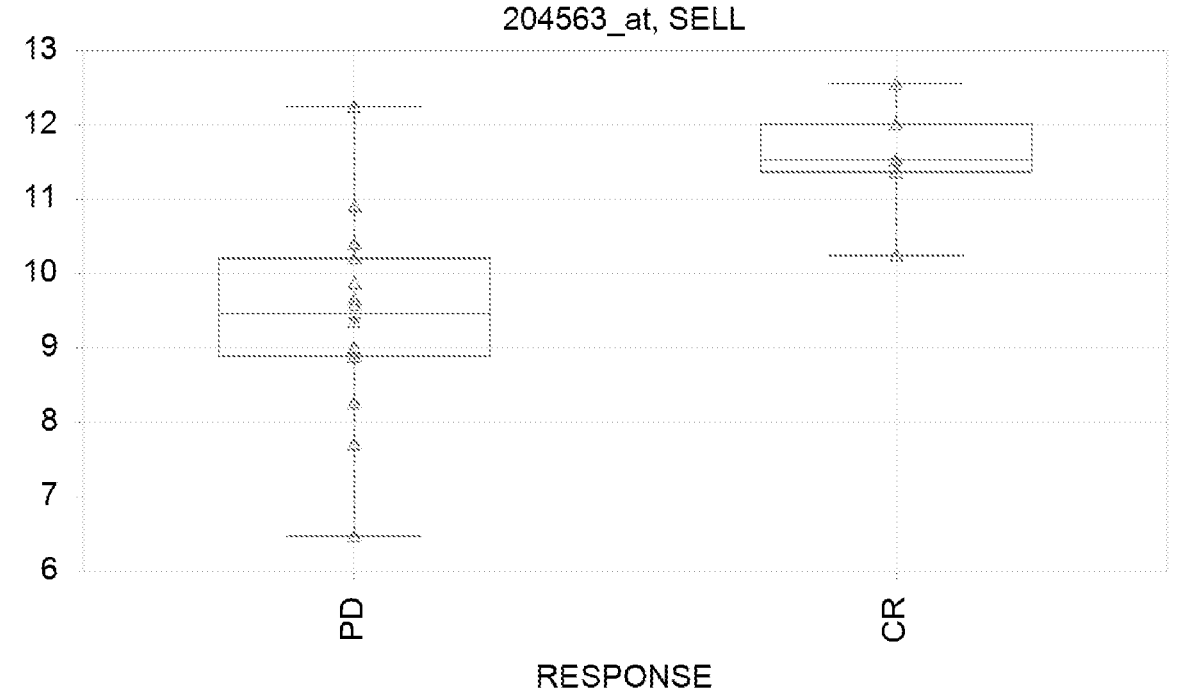


Fig. 13A

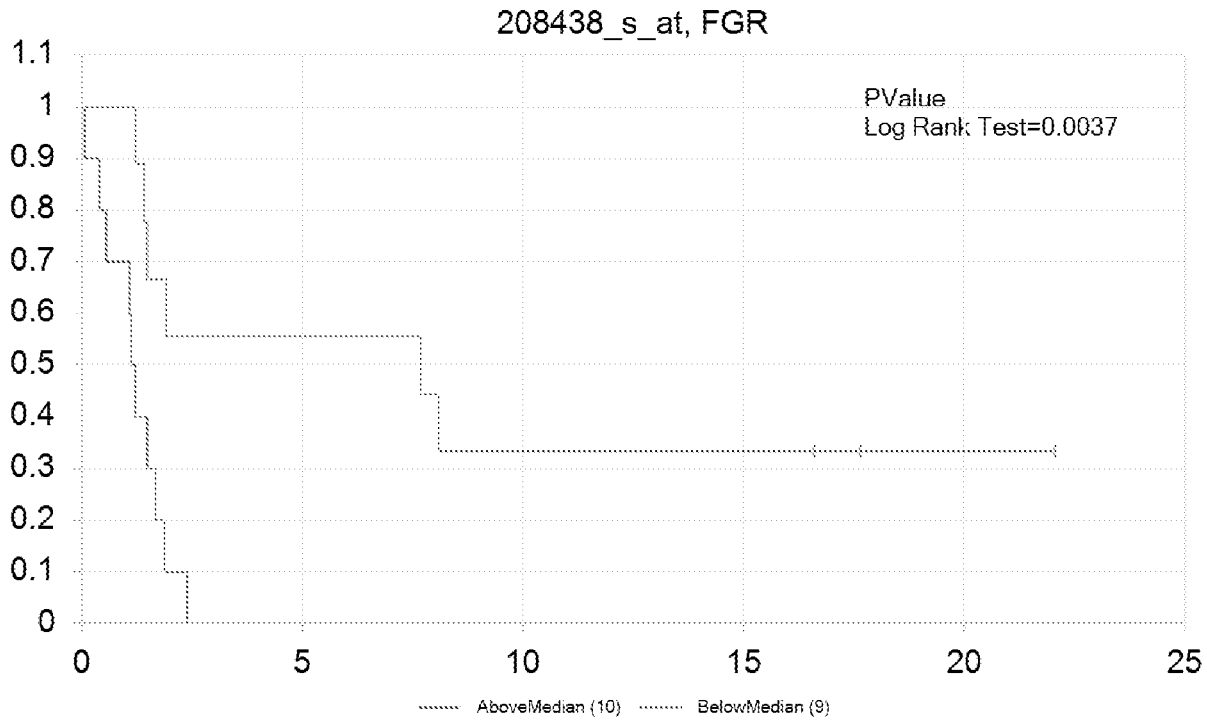


Fig. 13B

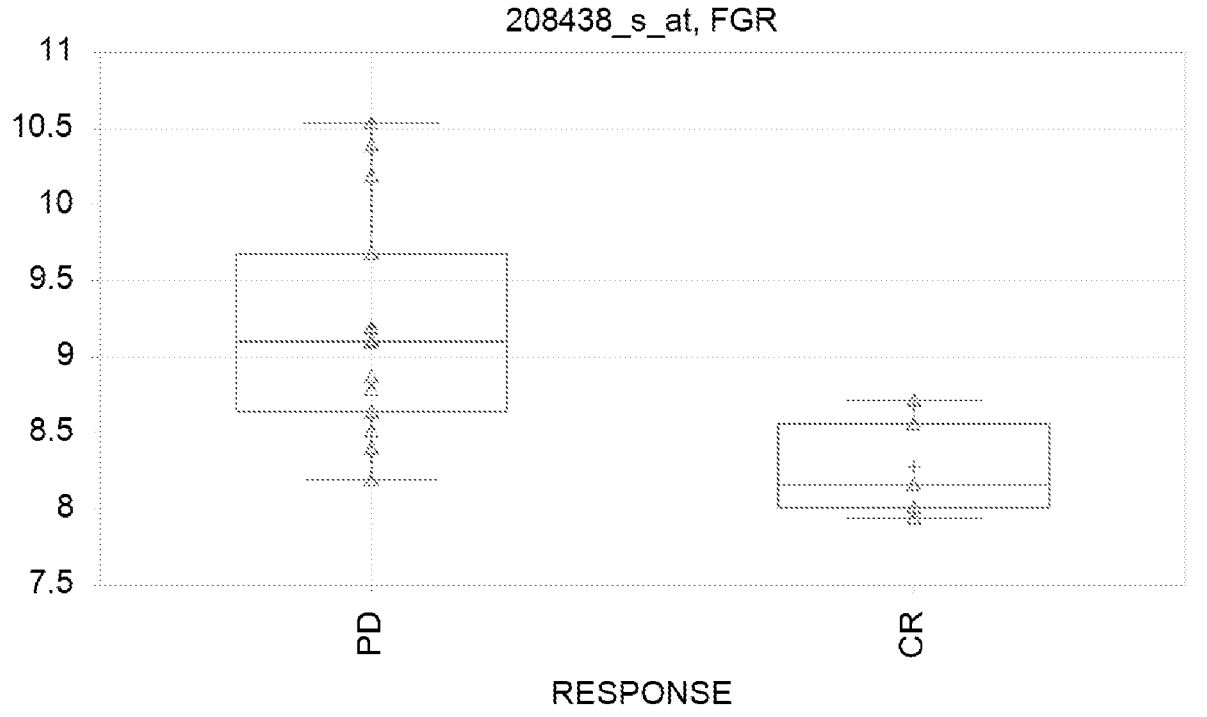


Fig. 13C

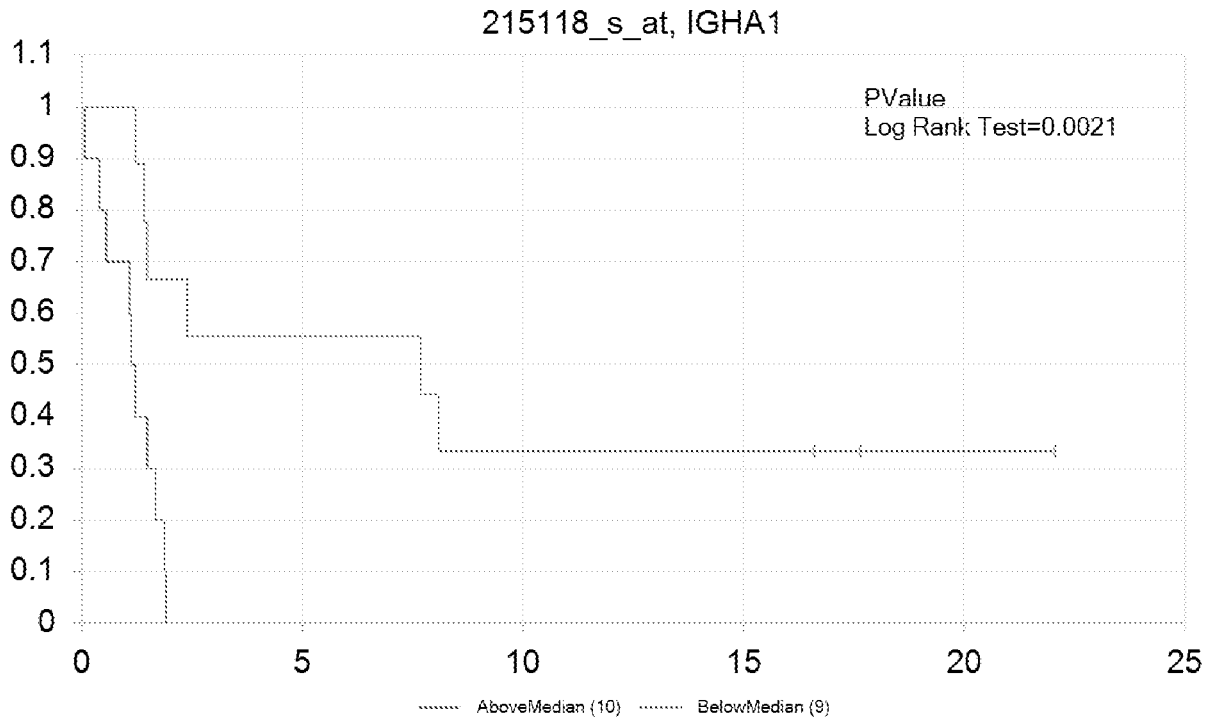


Fig. 13D

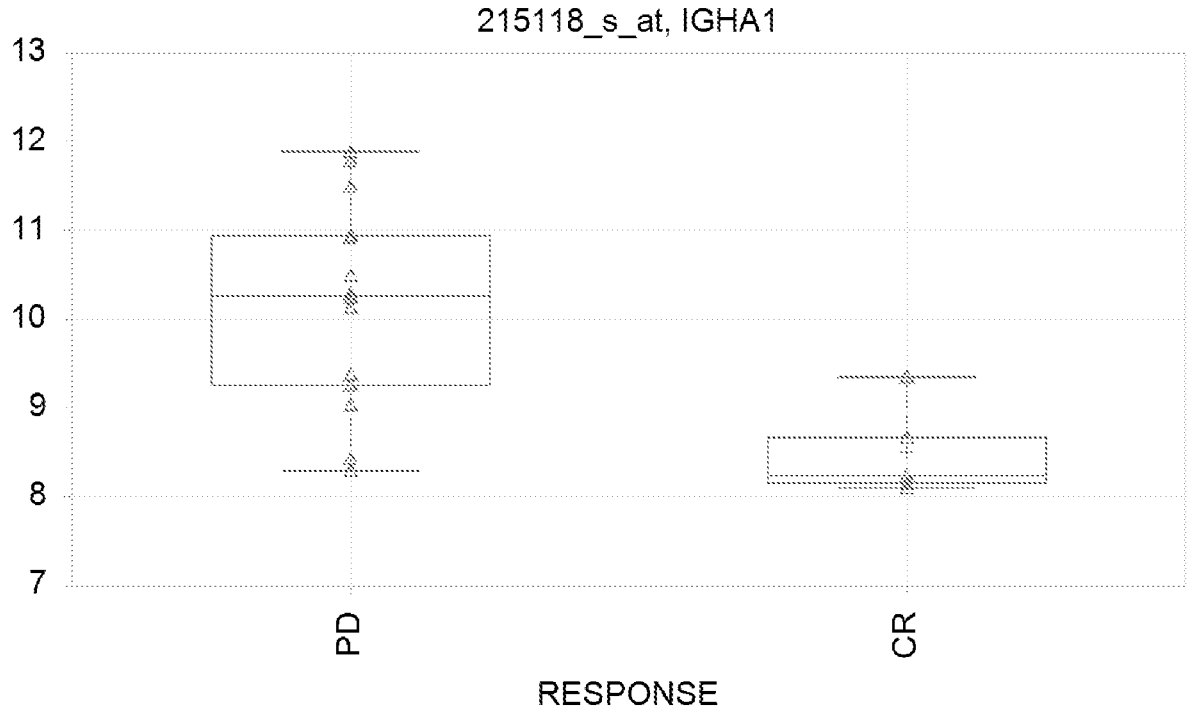


Fig. 14A

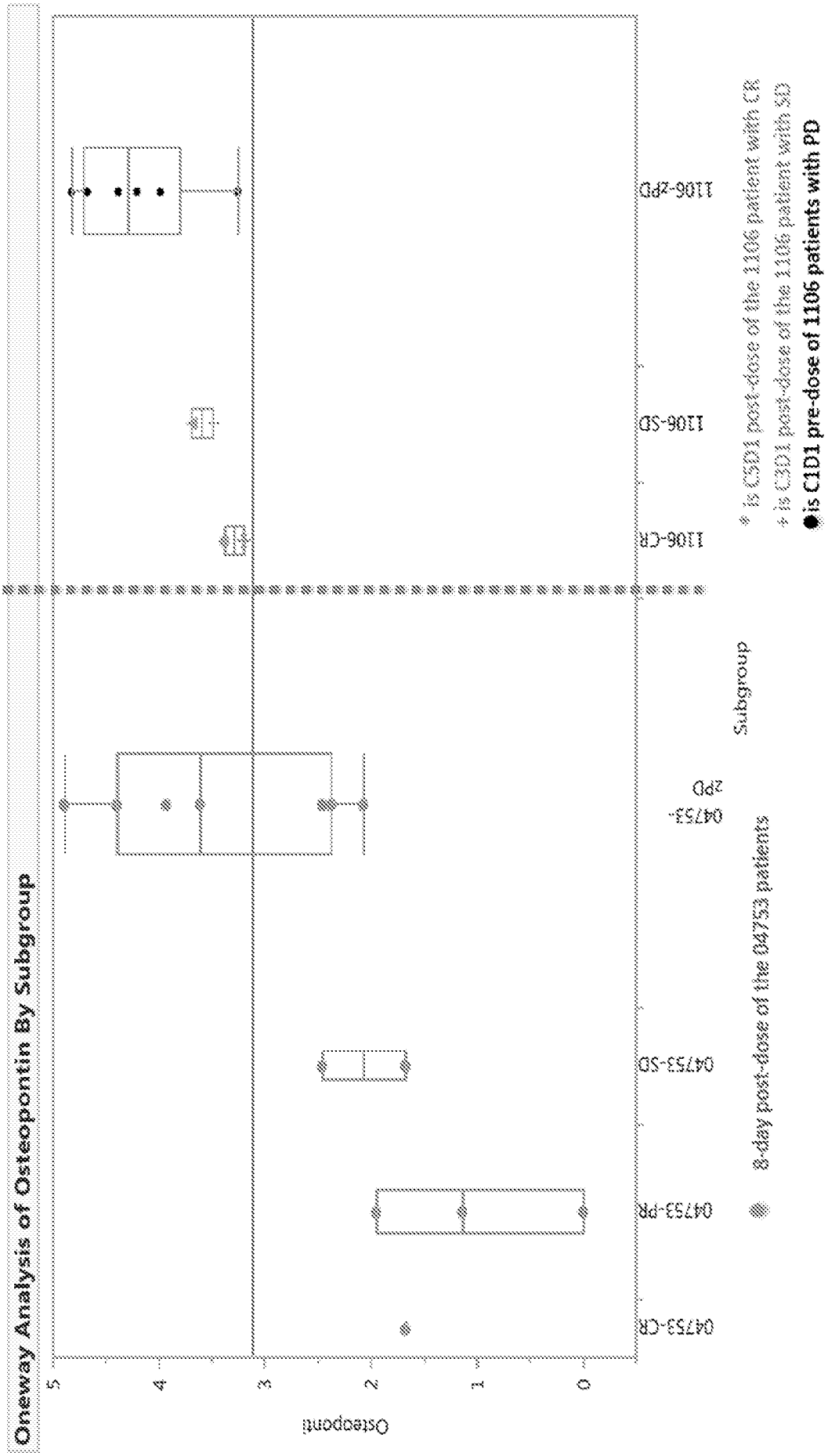

Oneway Analysis of Osteopontin By Subgroup
Osteopont
5
4
3
2
1
0
Subgroup
04753-CR
04753-PR
04753-SD
04753-zPD
1106-CR
1106-SD
1106-zPD
8-day post-dose of the 04753 patients
* is C5D1 post-dose of the 1106 patient with CR
+ is C3D1 post-dose of the 1106 patient with SD
● is C1D1 pre-dose of 1106 patients with PD

Fig. 14B

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
04753-CR	1.67516	1.67516	1.67516	1.67516	1.67516	1.67516	1.67516
04753-PR	0	0	0	1.133267	1.952694	1.952694	1.952694
04753-SD	1.67516	1.67516	1.67516	2.065178	2.455195	2.455195	2.455195
04753-zP	2.068172	2.068172	2.367732	3.615659	4.3901	4.891294	4.891294
1106-CR	3.196397	3.196397	3.196397	3.288609	3.380822	3.380822	3.380822
1106-SD	3.491853	3.491853	3.491853	3.591508	3.691162	3.691162	3.691162
1106-zPD	3.260528	3.260528	3.803802	4.288609	4.706884	4.824428	4.824428

Fig. 15A

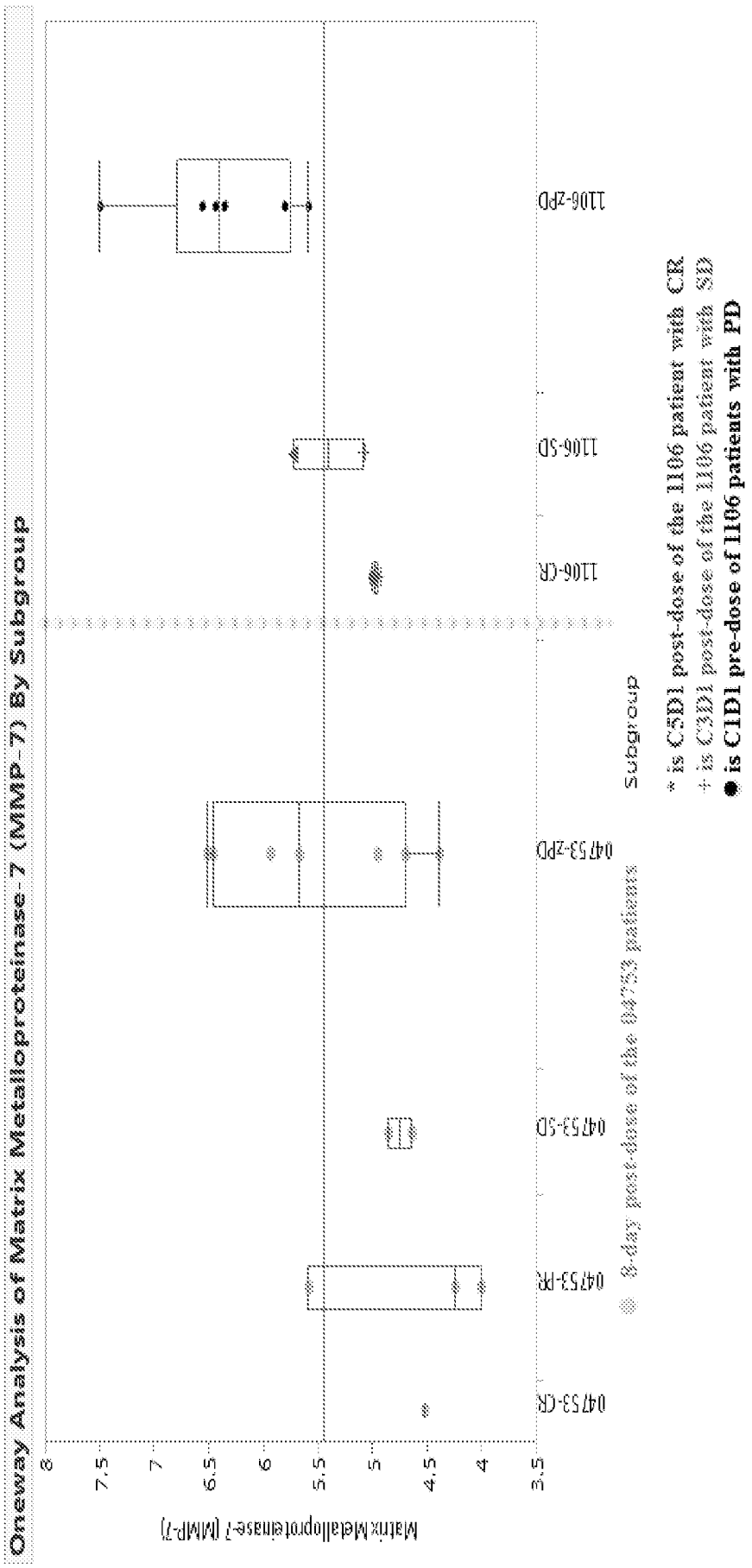

Oneway Analysis of Matrix Metalloproteinase-7 (MMP-7) By Subgroup
Matrix Metalloproteinase-7 (MMP-7)
8
7.5
7
6.5
6
5.5
5
4.5
4
3.5
0473-CR
0473-PR
0473-SD
0473-zPD
1106-CR
1106-SD
1106-zPD
Subgroup
8-day post-dose of the 0473 patients
* is C5D1 post-dose of the 1106 patient with CR
+ is C3D1 post-dose of the 1106 patient with SD
● is C1D1 pre-dose of 1106 patients with PD

Fig. 15B

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
04753-CR	4.523562	4.523562	4.523562	4.523562	4.523562	4.523562	4.523562
04753-PR	4	4	4	4.247928	5.584963	5.584963	5.584963
04753-SD	4.643856	4.643856	4.643856	4.750919	4.857981	4.857981	4.857981
04753-zPD	4.392317	4.392317	4.70044	5.672425	6.459432	6.507795	6.507795
1106-CR	4.954196	4.954196	4.954196	4.977098	5	5	5
1106-SD	5.087463	5.087463	5.087463	5.407692	5.72792	5.72792	5.72792
1106-zPD	5.584963	5.584963	5.751757	6.400248	6.788905	7.491853	7.491853

Fig. 16A

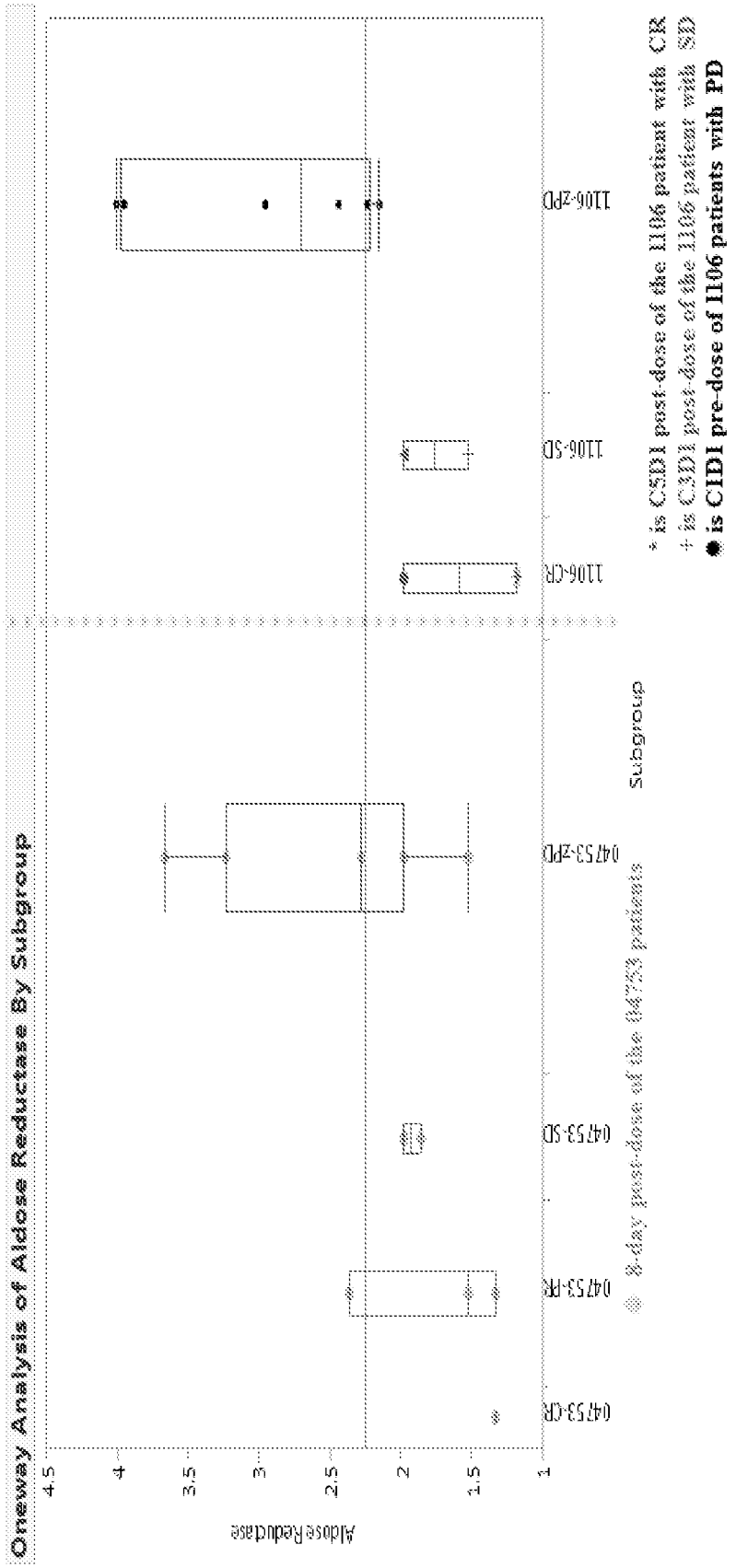

Oneway Analysis of Aldose Reductase By Subgroup
Aldose Reductase
4.5
4
3.5
3
2.5
2
1.5
1
0473-CR
0473-PR
0473-SD
0473-PD
1106-CR
1106-SD
1106-PD
Subgroup
* is C5D1 post-dose of the 1106 patient with CR
+ is C3D1 post-dose of the 1106 patient with SD
● is C1D1 pre-dose of 1106 patients with PD
◈ 8-day post-dose of the 0473 patients

Fig. 16B

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
04753-CR	1.330645	1.330645	1.330645	1.330645	1.330645	1.330645	1.330645
04753-PR	1.330645	1.330645	1.330645	1.525461	2.364997	2.364997	2.364997
04753-SD	1.862496	1.862496	1.862496	1.920235	1.977974	1.977974	1.977974
04753-zPD	1.525461	1.525461	1.977974	2.277534	3.23173	3.669851	3.669851
1106-CR	1.187627	1.187627	1.187627	1.583725	1.979822	1.979822	1.979822
1106-SD	1.530515	1.530515	1.530515	1.755168	1.979822	1.979822	1.979822
1106-zPD	2.152003	2.152003	2.2176	2.702071	3.972015	4.009984	4.009984

Fig. 17A

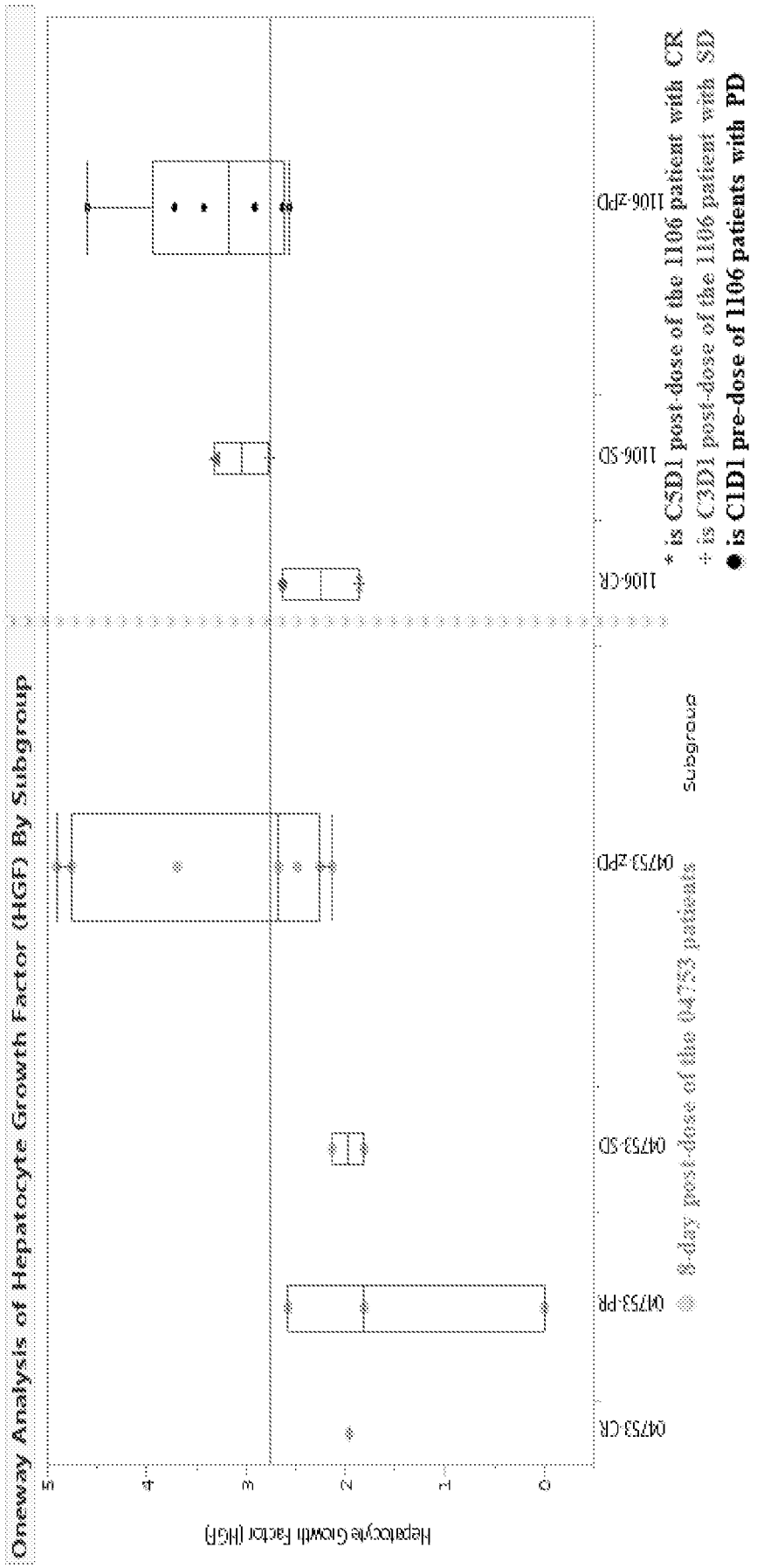

Oneway Analysis of Hepatocyte Growth Factor (HGF) By Subgroup
Hepatocyte Growth Factor (HGF)
0
1
2
3
4
5
0475.3.CR
0475.3.PR
0475.3.SD
0475.3.PD
1106.CR
1106.SD
1106.PD
Subgroup
% day post-dose of the 0475.3 patients
* is C5D1 post-dose of the 1106 patient with CR
+ is C3D1 post-dose of the 1106 patient with SD
● is C1D1 pre-dose of 1106 patients with PD

Fig. 17B

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
04753-CR	1.963474	1.963474	1.963474	1.963474	1.963474	1.963474	1.963474
04753-PR	0	0	0	1.807355	2.584963	2.584963	2.584963
04753-SD	1.807355	1.807355	1.807355	1.97243	2.137504	2.137504	2.137504
04753-zPD	2.137504	2.137504	2.263034	2.678072	4.754888	4.906891	4.906891
1106-CR	1.862496	1.862496	1.862496	2.248791	2.635086	2.635086	2.635086
1106-SD	2.769387	2.769387	2.769387	3.045658	3.321928	3.321928	3.321928
1106-zPD	2.562936	2.562936	2.617049	3.174336	3.940224	4.599462	4.599462

Fig. 18A

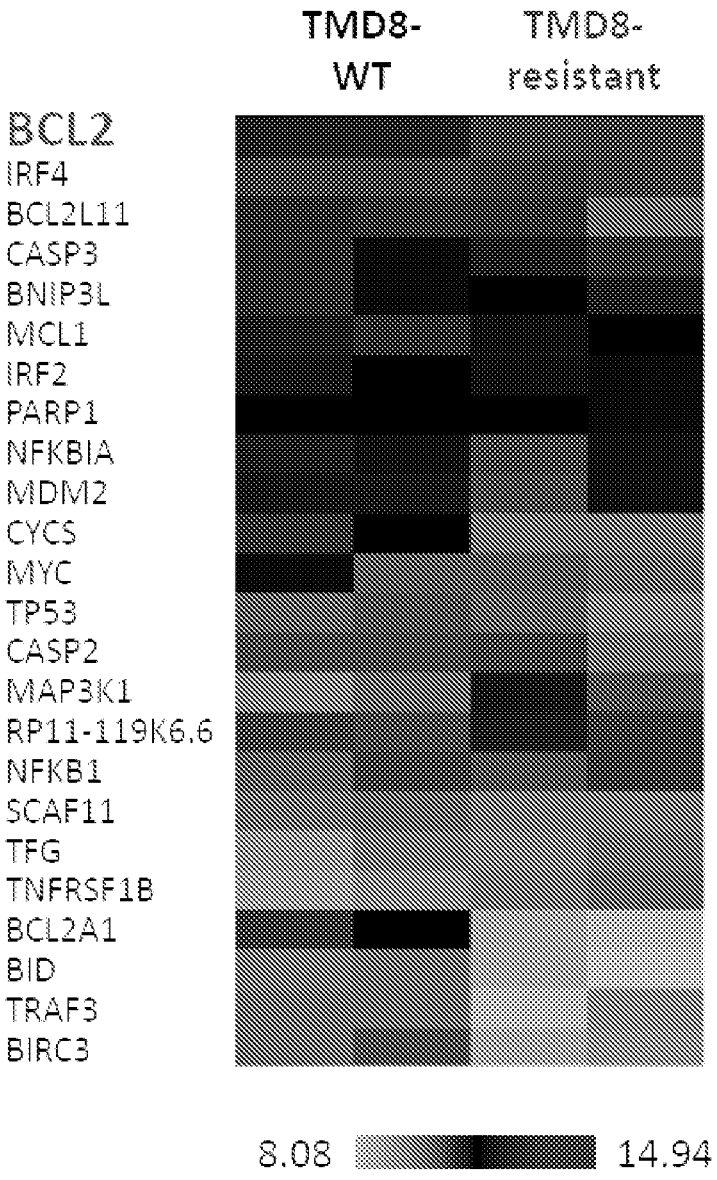

TMD8-WT
TMD8-resistant
BCL2
IRF4
BCL2L11
CASP3
BNIP3L
MCL1
IRF2
PARP1
NFKBIA
MDM2
CYCS
MYC
TP53
CASP2
MAP3K1
RP11-119K6.6
NFKB1
SCAF11
TFG
TNFRSF1B
BCL2A1
BID
TRAF3
BIRC3
8.08
14.94

Fig. 18B

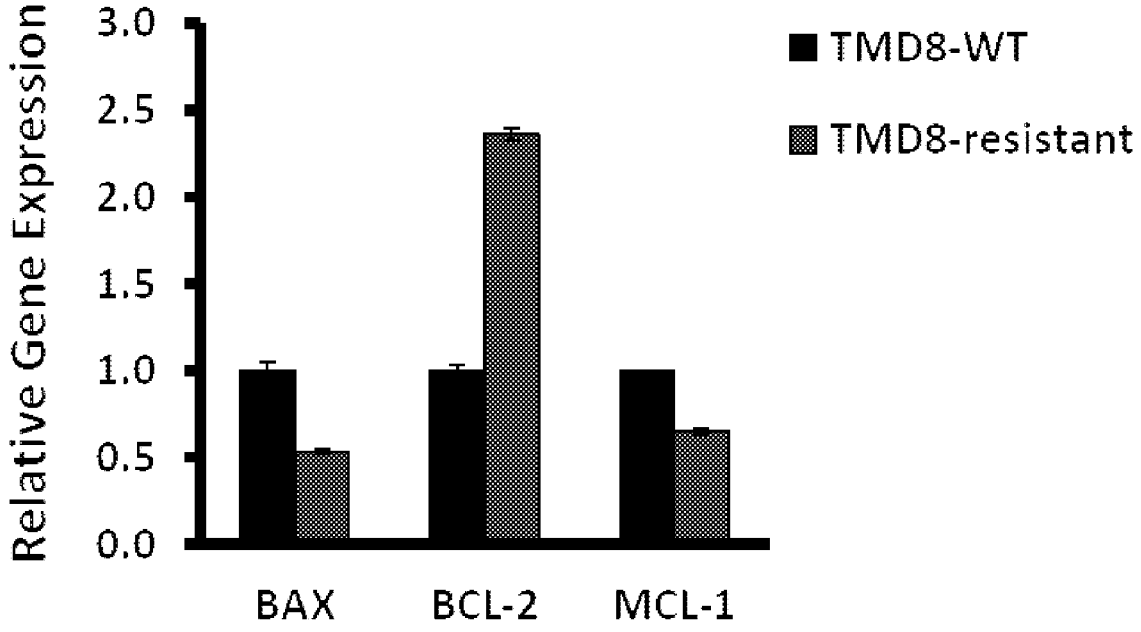


Fig. 18C

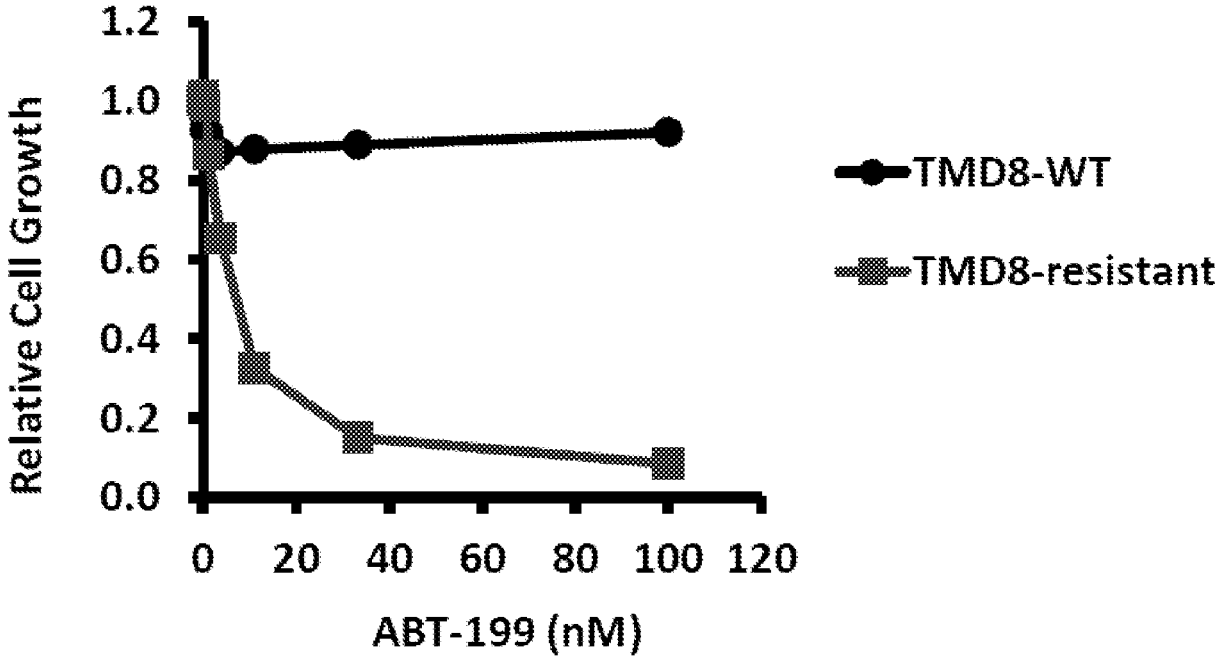


Fig. 19

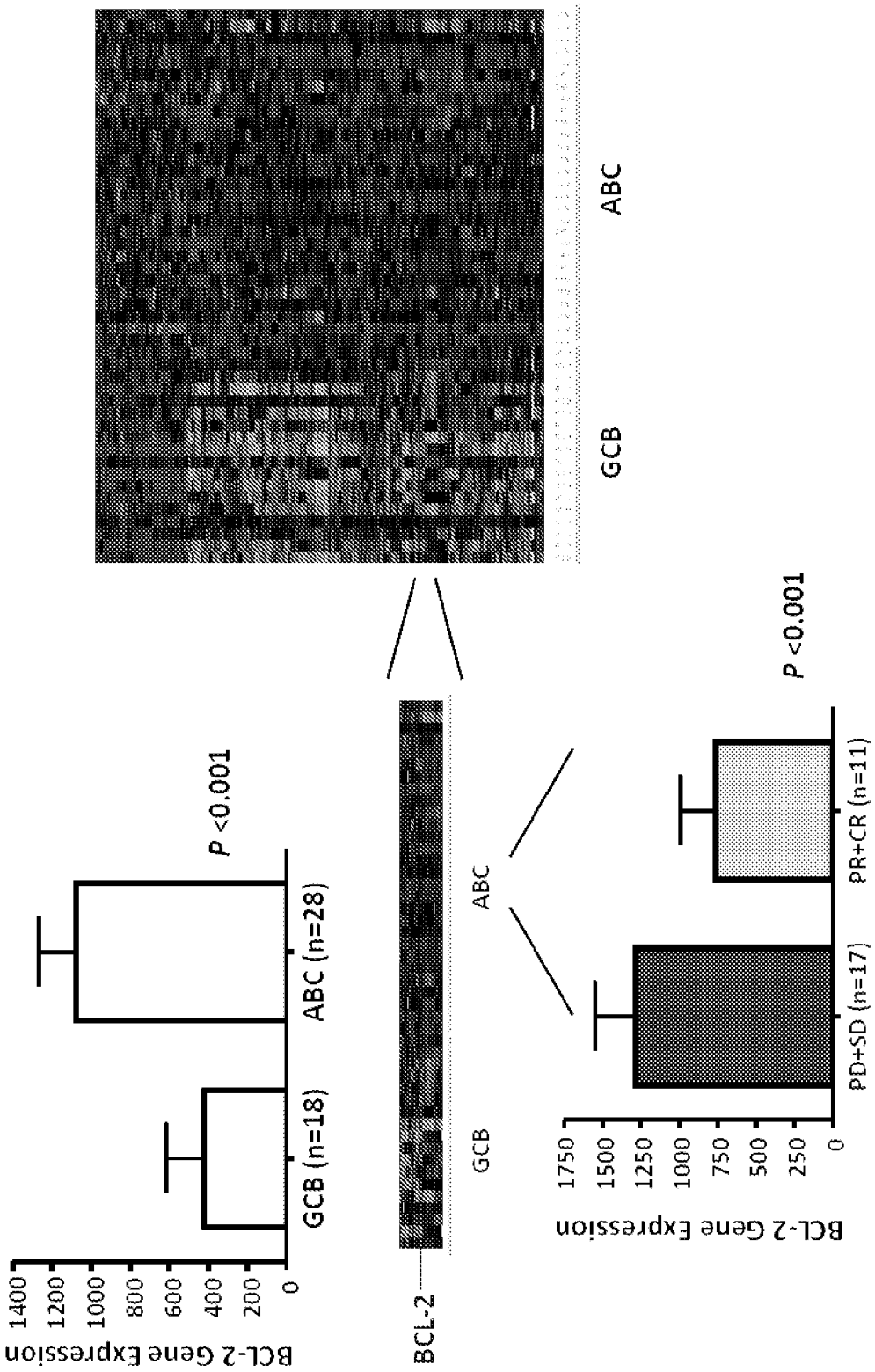

BCL-2 Gene Expression
1400
1200
1000
800
600
400
200
0
GCB (n=18)
ABC (n=28)
P <0.001
BCL-2
GCB
ABC
GCB
ABC
BCL-2 Gene Expression
1750
1500
1250
1000
750
500
250
0
PD+SD (n=17)
PR+CR (n=11)
P <0.001

Fig. 20

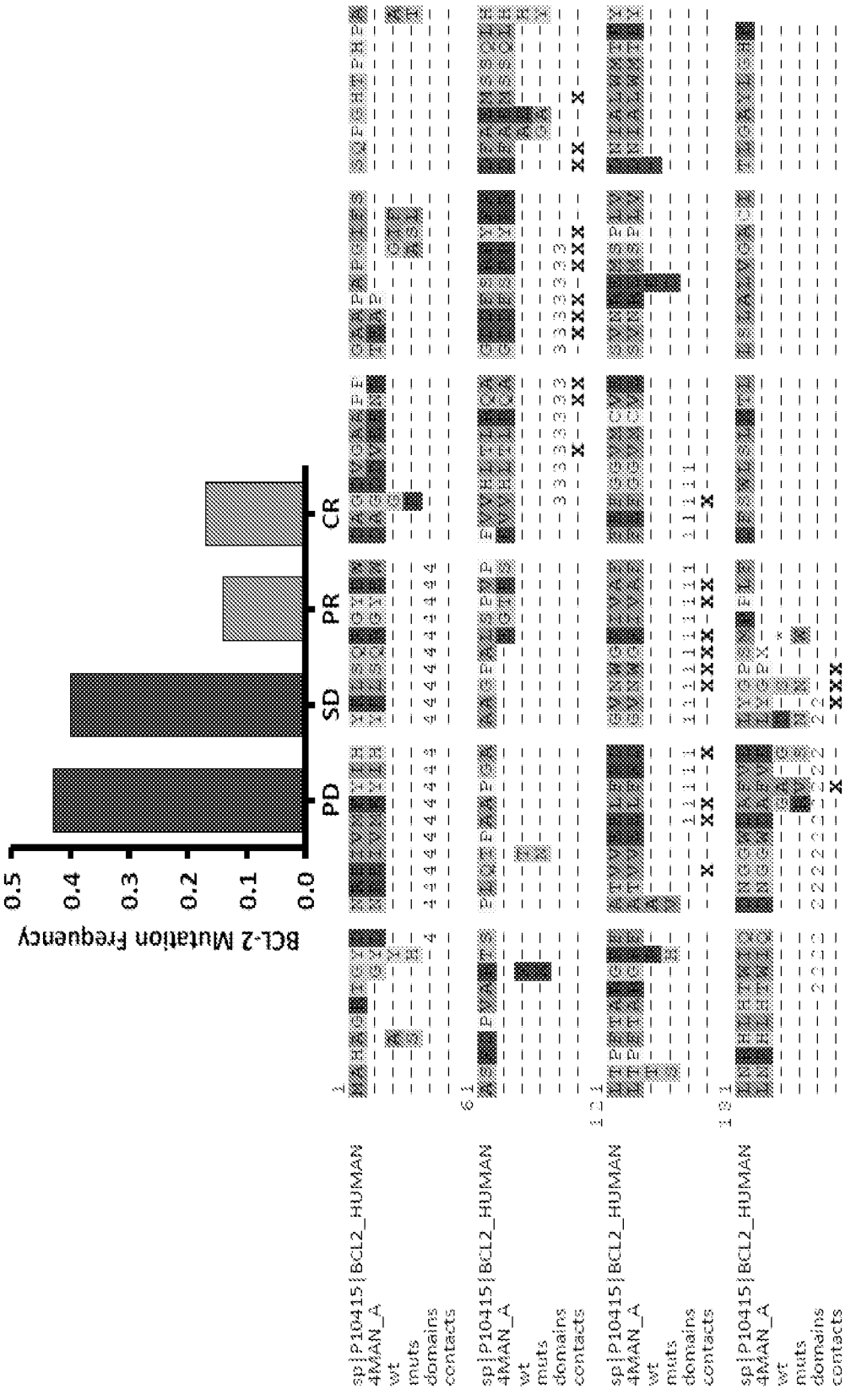

BCL-2 Mutation Frequency
0.5
0.4
0.3
0.2
0.1
0.0
PD
SD
PR
CR
spP10415|BCL2_HUMAN
4MAN_A
wt
muts
domains
contacts

Fig. 21A

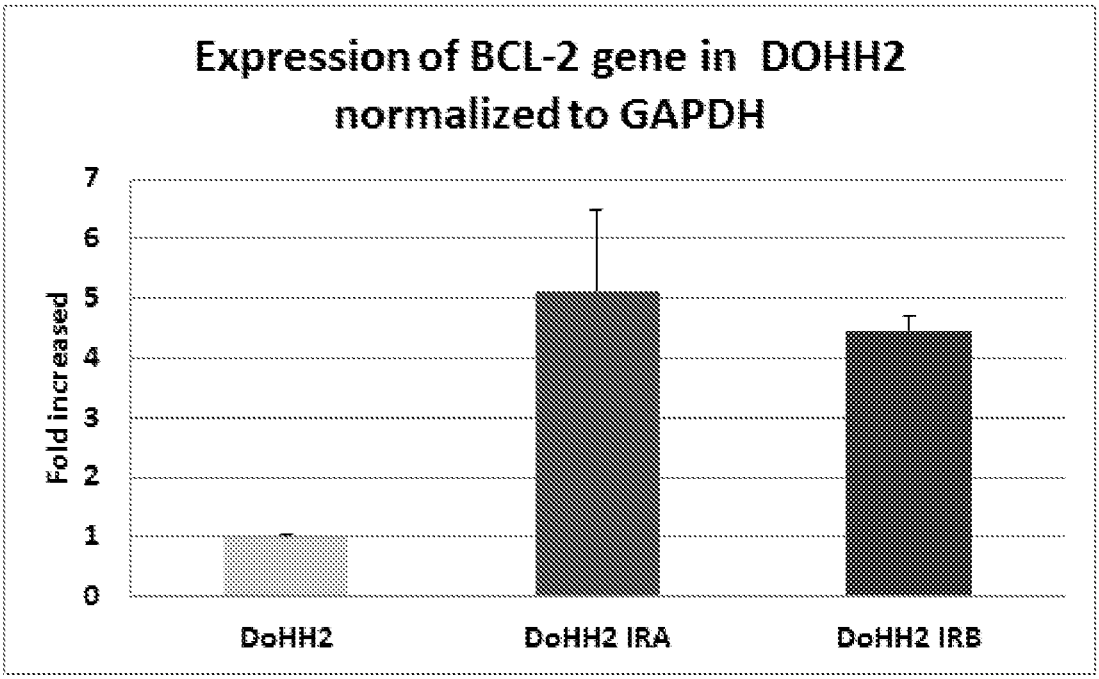


Fig. 21B

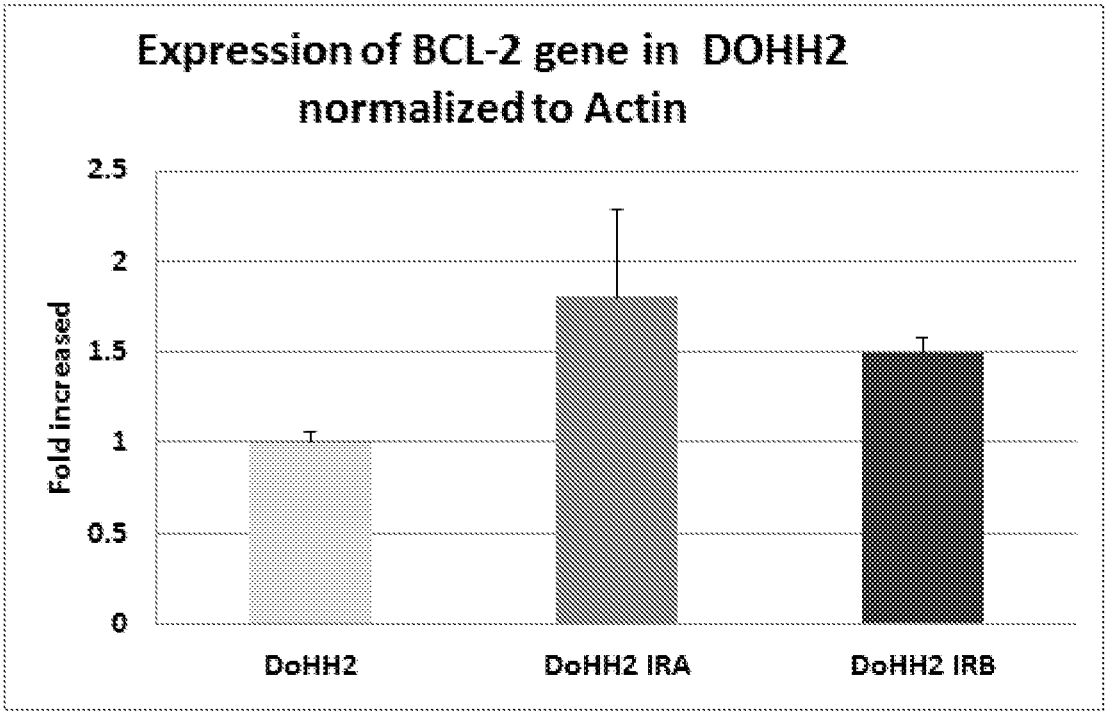
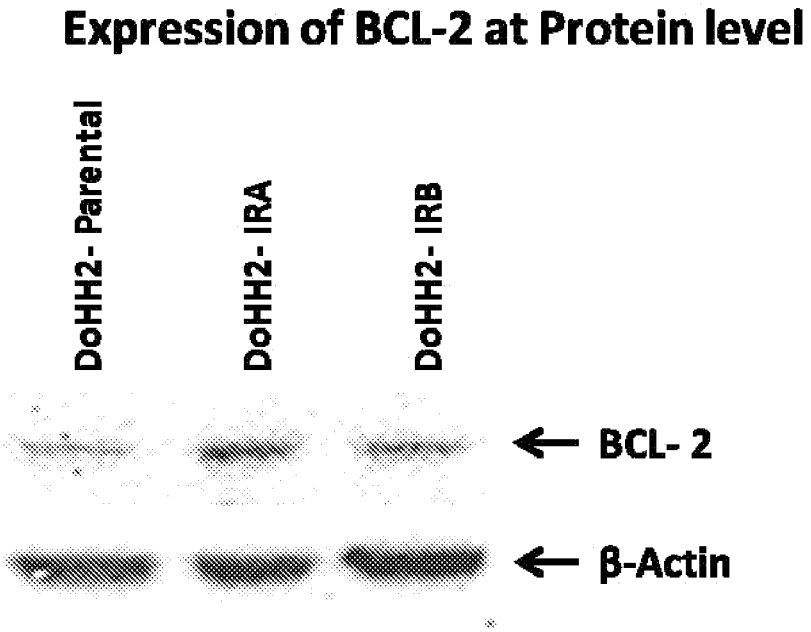


Fig. 21C



p-PLCg-2
p-Btk
p-NF-$_k$B
p-ERK

Undetected without IgG stimulation

Fig. 22A

	0	0.37	1.11	3.33	10nM
0	1.000	0.921	0.799	0.561	0.381
0.8	0.501	0.461	0.336	0.157	0.047
4	0.477	0.418	0.287	0.126	0.041
20	0.437	0.359	0.230	0.082	0.028
100	0.271	0.205	0.118	0.044	0.014
500nM	0.049	0.035	0.021	0.011	0.008

Fig. 22B

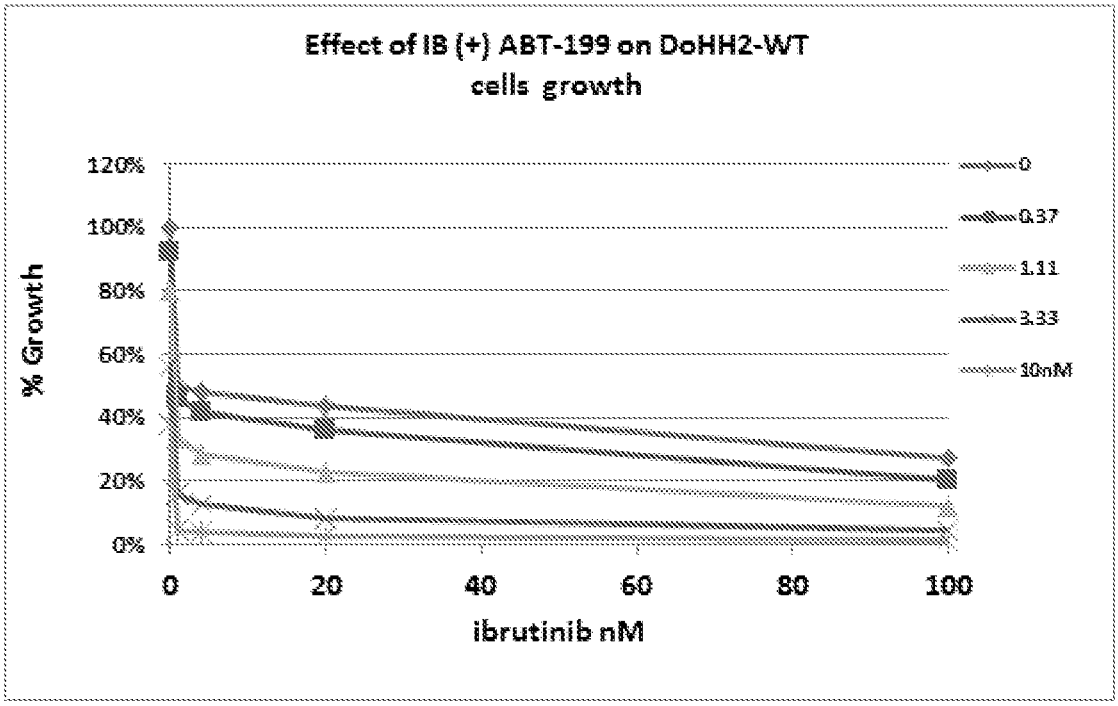


Fig. 22C

CI For experimental values

ibrutinib (nM)	ABT-199 (nM)	Fa	CI
0.8	0.37	0.539329	0.268
0.8	1.11	0.664474	0.161
0.8	3.33	0.843441	0.106
0.8	10	0.952724	0.07
4	0.37	0.581777	0.744
4	1.11	0.713375	0.255
4	3.33	0.874267	0.091
4	10	0.958806	0.06
20	0.37	0.641107	1.964
20	1.11	0.770353	0.493
20	3.33	0.918076	0.07
20	10	0.9723	0.039
100	0.37	0.794958	1.569
100	1.11	0.881741	0.356
100	3.33	0.955603	0.049
100	10	0.985949	0.019
500	0.37	0.964872	0.079
500	1.11	0.978552	0.026
500	3.33	0.9894	0.009
500	10	0.992061	0.011

Fig. 22D

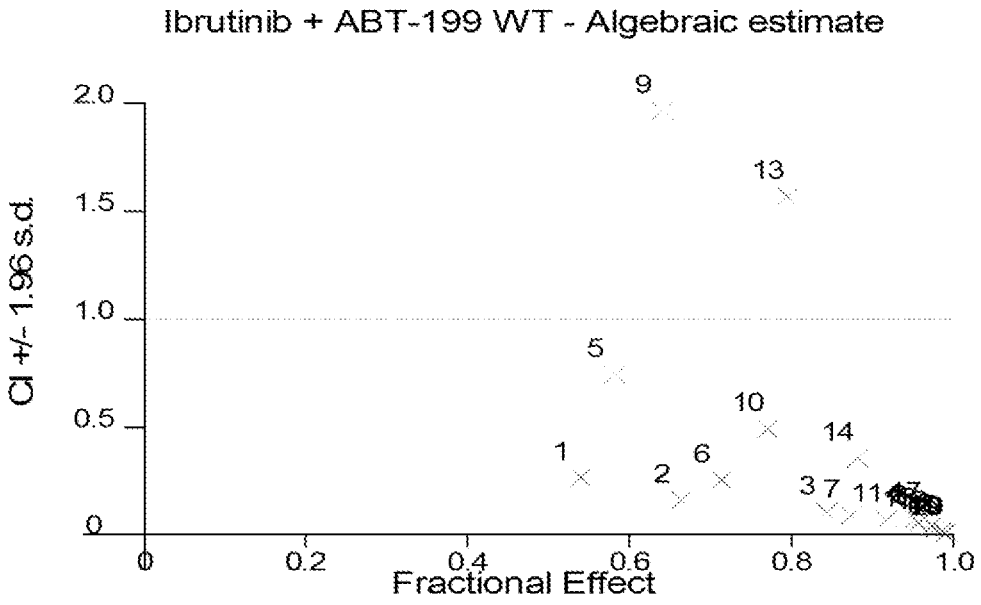


Fig. 23A

	0	0.37	1.11	3.33	10nM
0	1.0000	0.9247	0.7777	0.5463	0.3696
16	0.9273	0.7894	0.6041	0.3684	0.2008
80	0.7990	0.6708	0.4964	0.3093	0.1083
400	0.4918	0.3870	0.2804	0.0912	0.0102
2000	0.0698	0.0378	0.0117	0.0009	0.0003
10000nM	0.0014	0.0009	0.0005	0.0002	0.0003

Fig. 23B

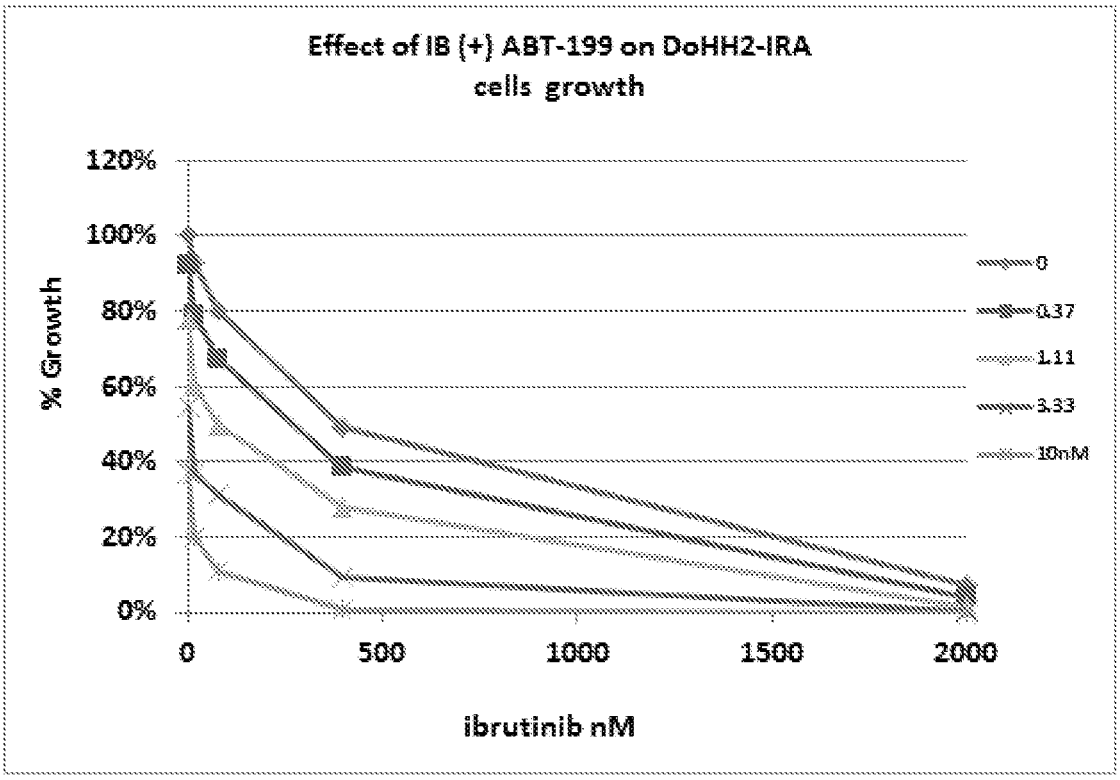

Effect of IB (+) ABT-199 on DoHH2-IRA cells growth
120%
100%
80%
60%
40%
20%
0%
% Growth
0
500
1000
1500
2000
ibrutinib nM
0
0.37
1.11
3.33
10nM

Fig. 23C

CI For experimental values

Ibrutinib_IRA (nM)	ABT-199_IRA (nM)	Fa	CI
16	0.37	0.21056	0.543
16	1.11	0.395903	0.479
16	3.33	0.631573	0.444
16	10	0.799168	0.499
80	0.37	0.329231	0.883
80	1.11	0.503583	0.65
80	3.33	0.690669	0.529
80	10	0.891697	0.306
400	0.37	0.613025	1.579
400	1.11	0.719567	1.163
400	3.33	0.90884	0.46
400	10	0.989757	0.092
2000	0.37	0.962156	1.022
2000	1.11	0.988334	0.427
2000	3.33	0.999129	0.064
2000	10	0.99968	0.031
10000	0.37	0.999146	0.315
10000	1.11	0.999538	0.202
10000	3.33	0.999822	0.101
10000	10	0.999715	0.142

Fig. 23D

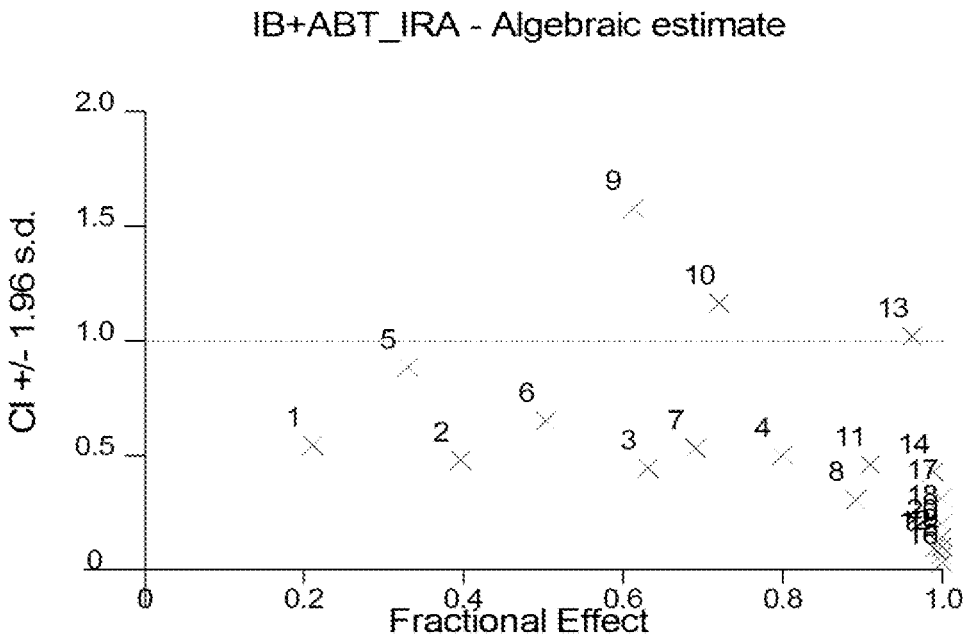


Fig. 24A

	0	**0.37**	**1.11**	**3.33**	**10nM**
0	1.0000	0.8799	0.7726	0.6185	0.3998
16	0.8161	0.6425	0.4769	0.2699	0.1338
80	0.7195	0.5726	0.3906	0.2390	0.0854
400	0.4201	0.3017	0.1965	0.0680	0.0073
2000	0.0452	0.0235	0.0069	0.0008	0.0002
10000nM	0.0010	0.0006	0.0002	0.0002	0.0002

Fig. 24B

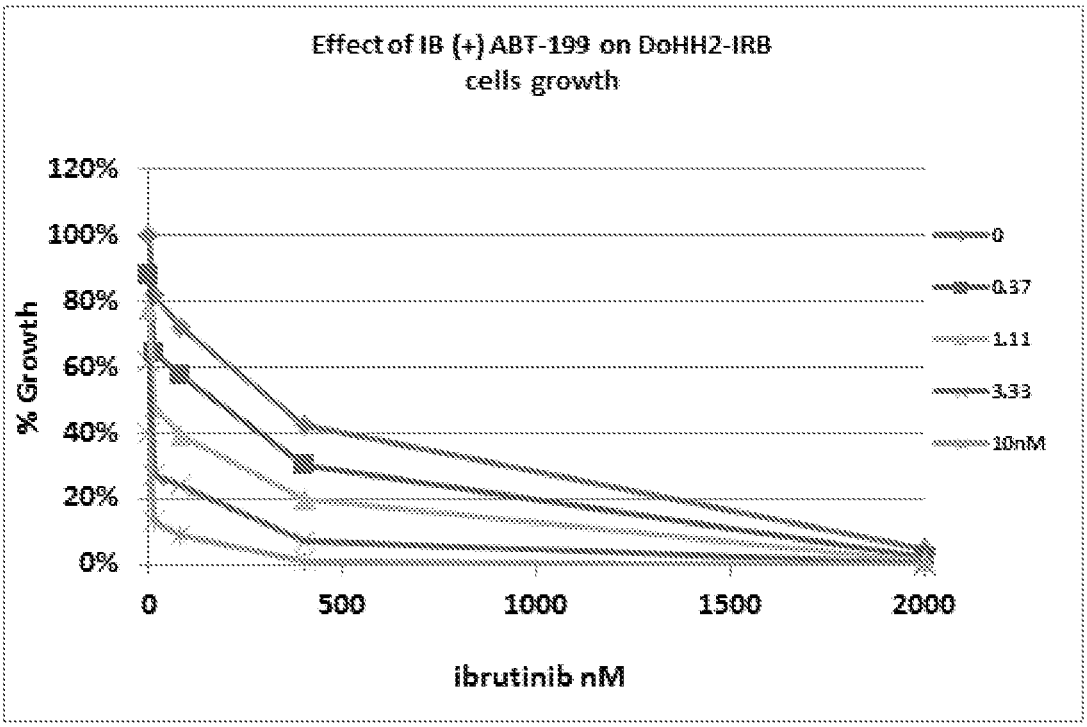

Effect of IB (+) ABT-199 on DoHH2-IRB cells growth
120%
100%
80%
60%
40%
20%
0%
% Growth
0
500
1000
1500
2000
ibrutinib nM
0
0.37
1.11
3.33
10nM

Fig. 24C

CI For experimental values

Ibutinib–IRB (nM)	ABT–199–IRB (nM)	Fa	CI
16	0.37	0.357527	0.275
16	1.11	0.52306	0.288
16	3.33	0.730082	0.278
16	10	0.866246	0.298
80	0.37	0.427362	0.635
80	1.11	0.609421	0.452
80	3.33	0.761	0.382
80	10	0.914575	0.237
400	0.37	0.698279	1.194
400	1.11	0.803537	0.819
400	3.33	0.932024	0.36
400	10	0.992748	0.07
2000	0.37	0.976472	0.715
2000	1.11	0.99306	0.291
2000	3.33	0.999226	0.059
2000	10	0.999788	0.023
10000	0.37	0.999426	0.236
10000	1.11	0.999775	0.119
10000	3.33	0.99975	0.129
10000	10	0.999813	0.105

Fig. 24D

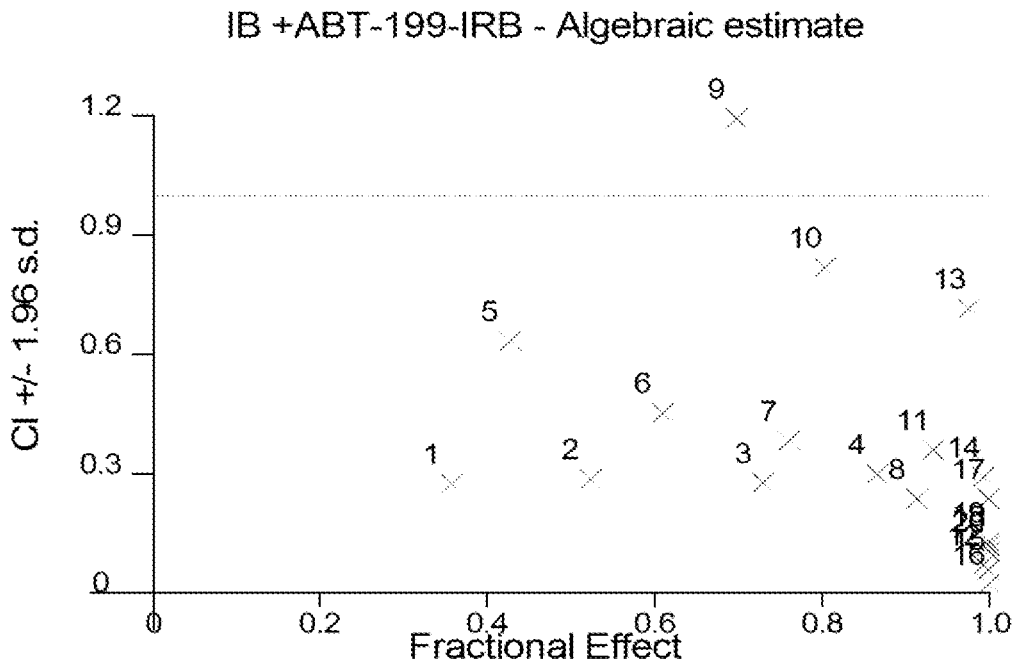

IB +ABT-199-IRB - Algebraic estimate
CI +/- 1.96 s.d.
1.2
0.9
0.6
0.3
0
0
0.2
0.4
0.6
0.8
1.0
Fractional Effect
1
2
3
4
5
6
7
8
9
10
11
13
14
17

Fig. 25A

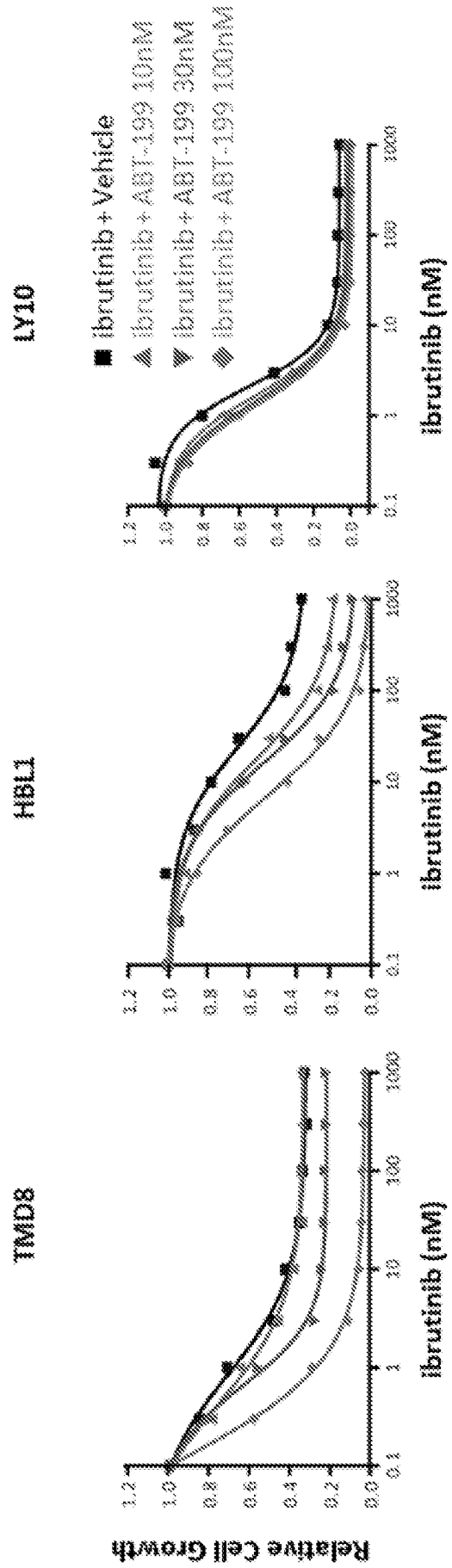

TMD8
HBL1
LY10
Relative Cell Growth
ibrutinib (nM)
ibrutinib + Vehicle
ibrutinib + ABT-199 10nM
ibrutinib + ABT-199 30nM
ibrutinib + ABT-199 100nM

Fig. 25B

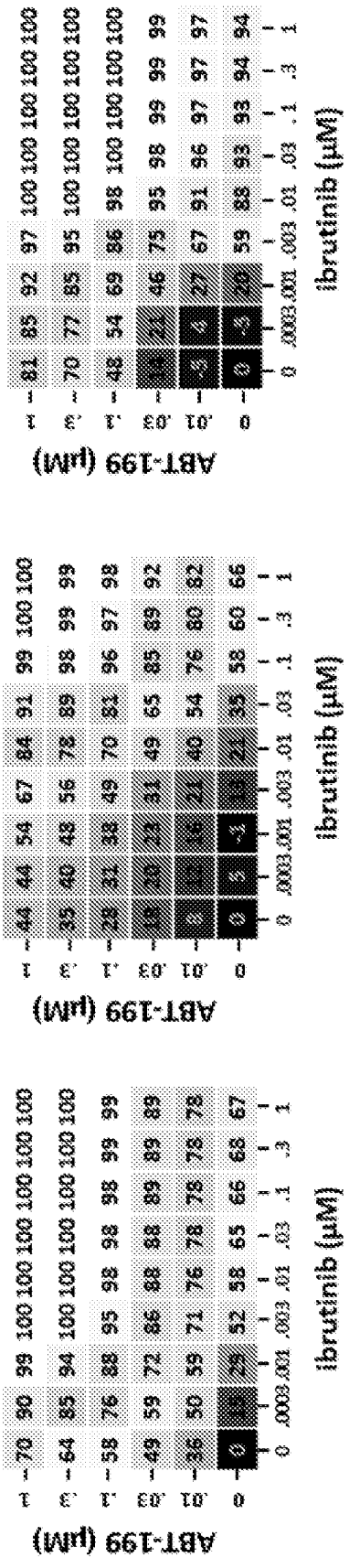


Fig. 25C

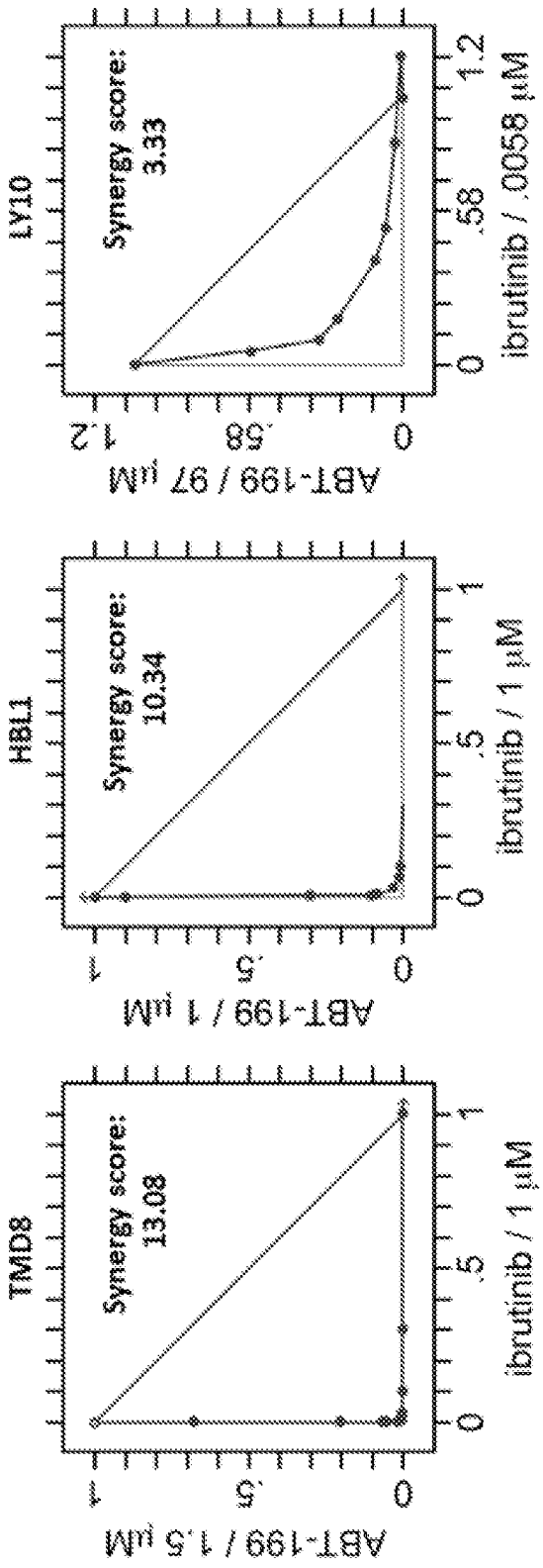

TMD8
Synergy score:
13.08
ABT-199 / 1.5 μM
ibrutinib / 1 μM
HBL1
Synergy score:
10.34
ABT-199 / 1 μM
ibrutinib / 1 μM
LY10
Synergy score:
3.33
ABT-199 / 97 μM
ibrutinib / .0058 μM

Fig. 25D

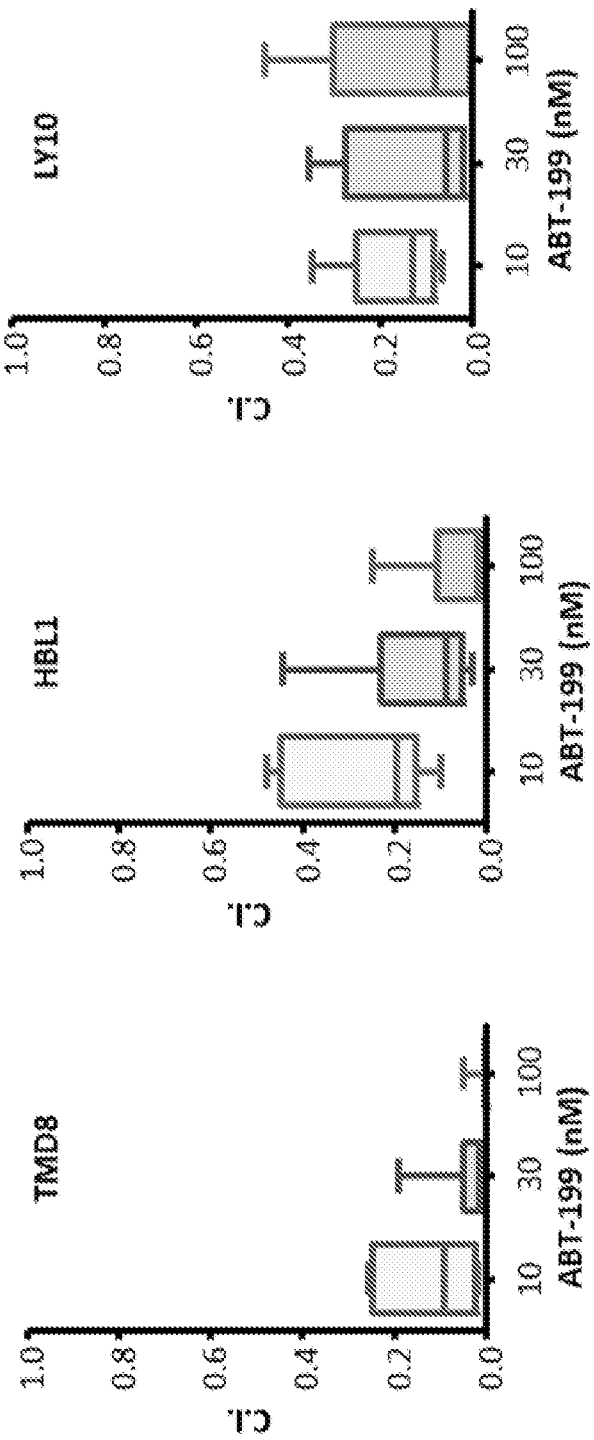


Fig. 26A

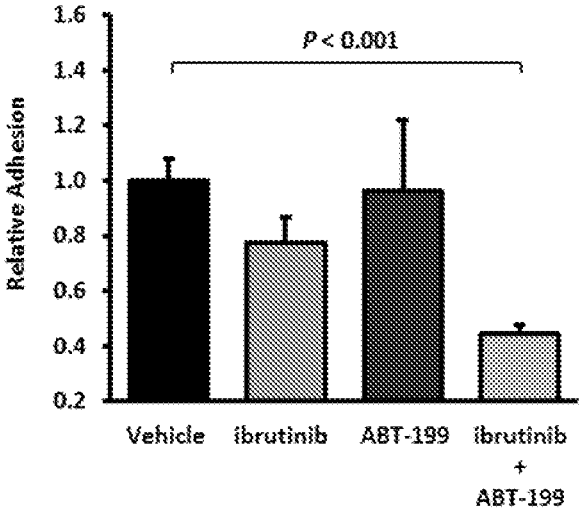


Fig. 26B

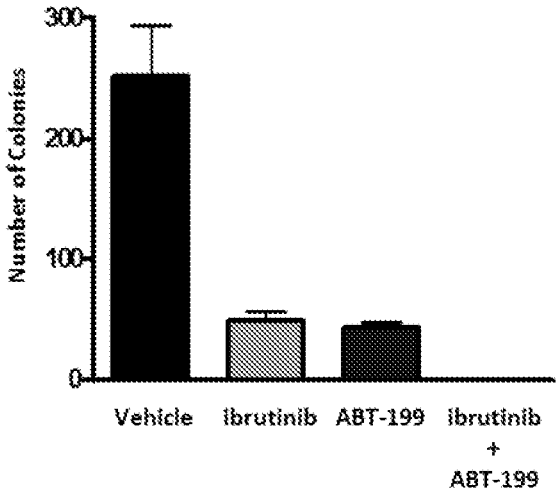


Fig. 26C

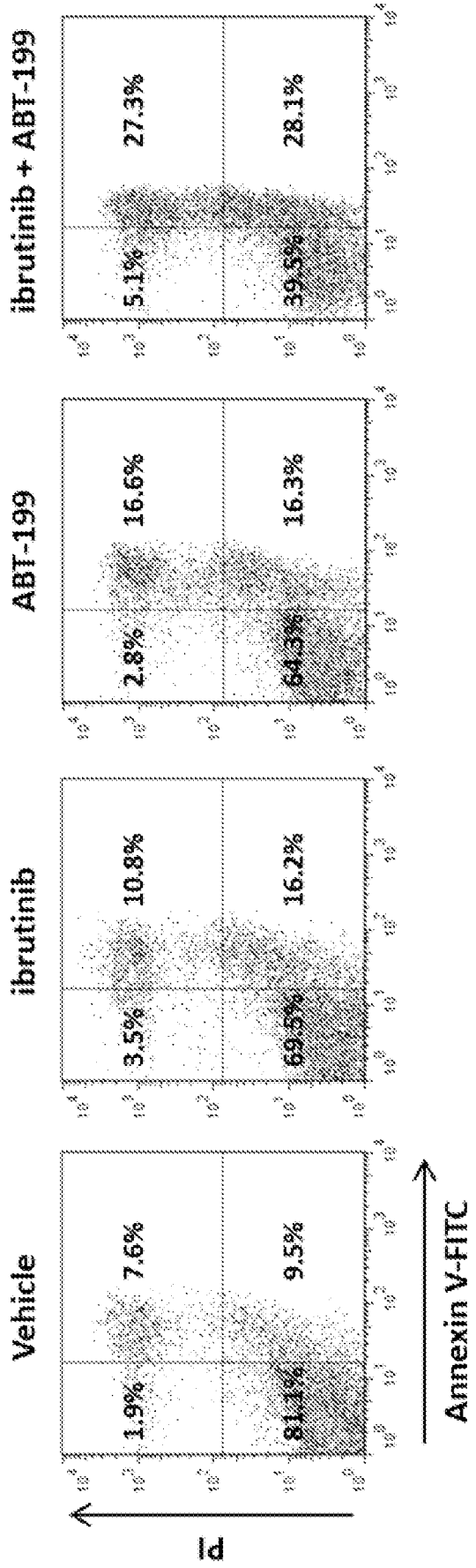

Vehicle
ibrutinib
ABT-199
ibrutinib + ABT-199
1.9%
7.6%
81.1%
9.5%
3.5%
10.8%
69.5%
16.2%
2.8%
16.6%
64.3%
16.3%
5.1%
27.3%
39.5%
28.1%
PI
Annexin V-FITC

Fig. 26D

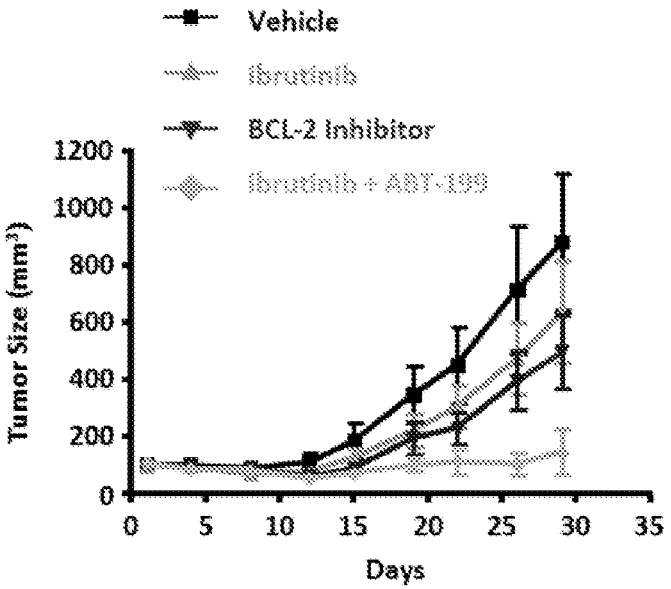


Fig. 26E

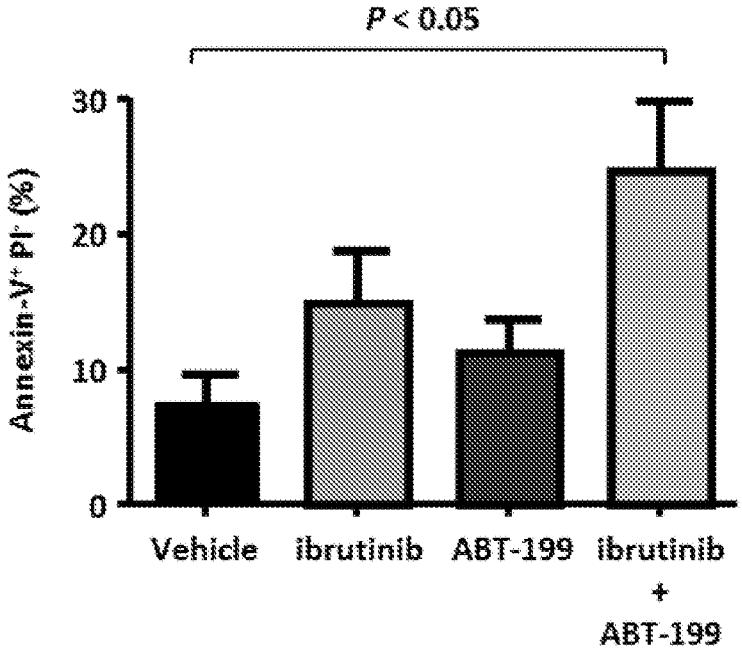


Fig. 27A

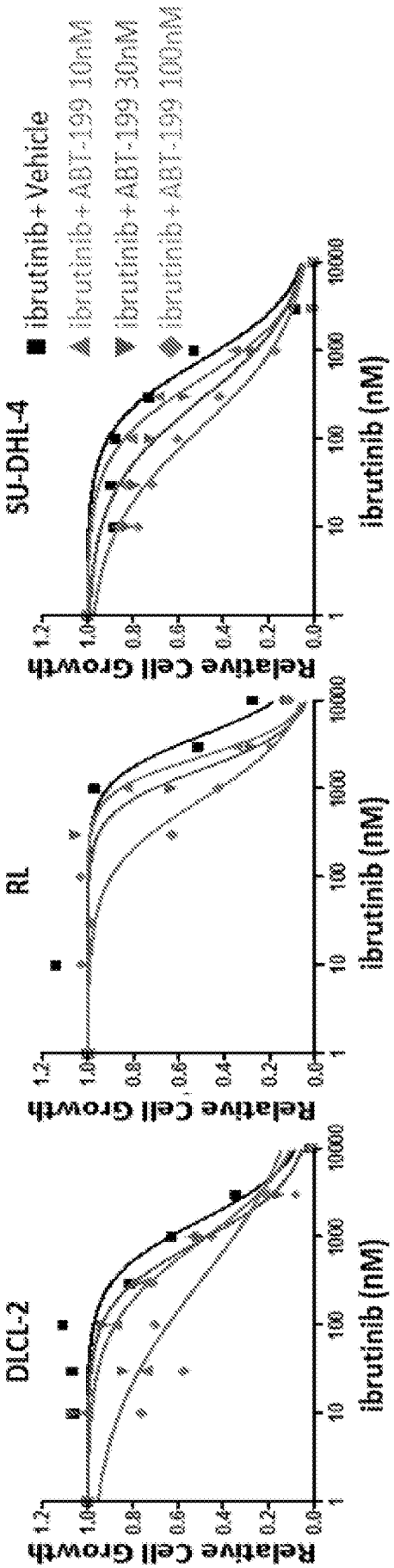

SU-DHL-4
RL
DLCL-2
ibrutinib + Vehicle
ibrutinib + ABT-199 10nM
ibrutinib + ABT-199 30nM
ibrutinib + ABT-199 100nM
Relative Cell Growth
ibrutinib (nM)
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1
10
100
1000
10000

Fig. 27B

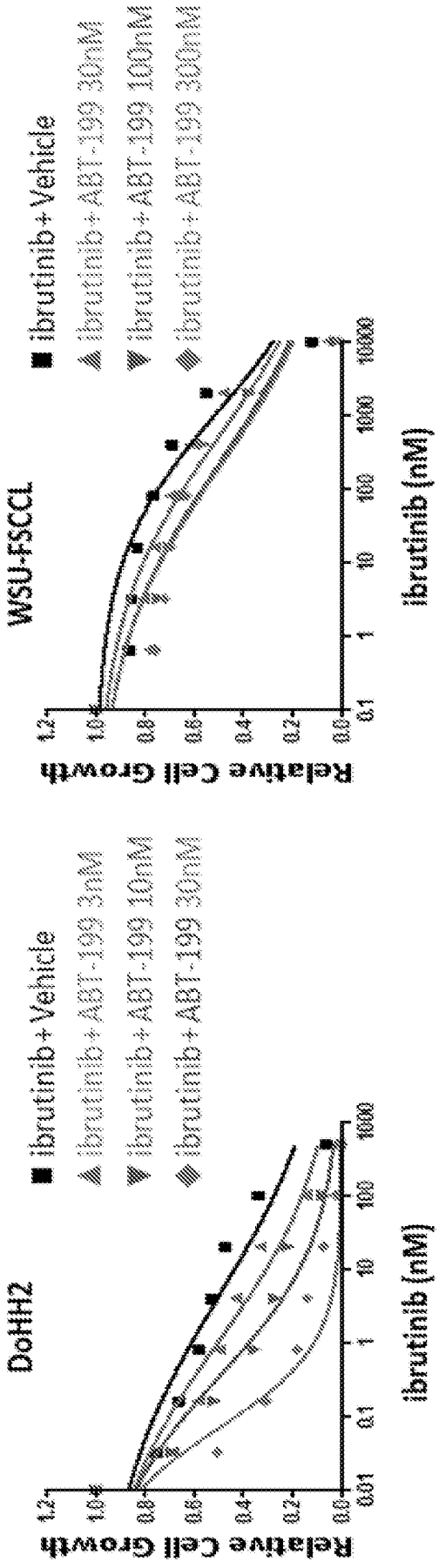

WSU-FSCCL
ibrutinib+Vehicle
ibrutinib+ABT-199 30nM
ibrutinib+ABT-199 100nM
ibrutinib+ABT-199 300nM
Relative Cell Growth
ibrutinib (nM)
DoHH2
ibrutinib+Vehicle
ibrutinib+ABT-199 3nM
ibrutinib+ABT-199 10nM
ibrutinib+ABT-199 30nM
Relative Cell Growth
ibrutinib (nM)

Fig. 27C

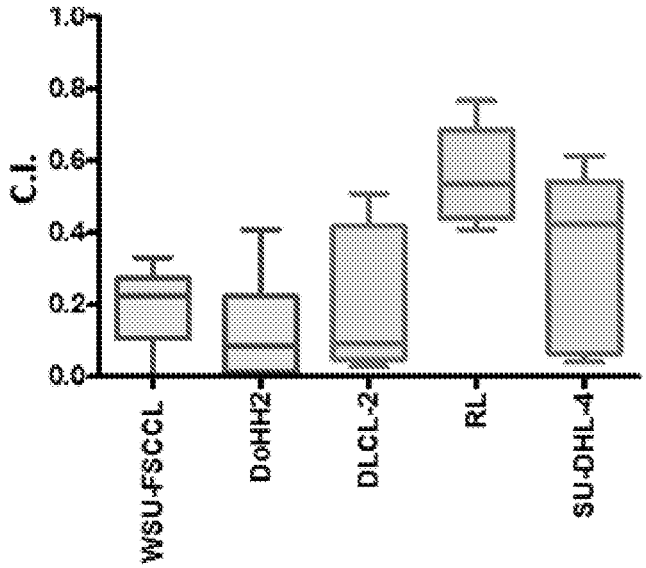


Fig. 28A

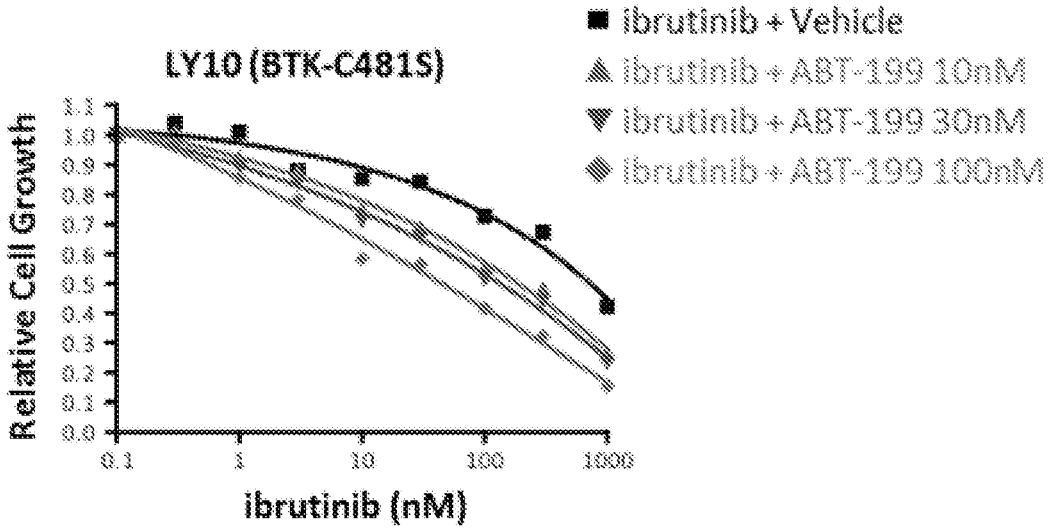


Fig. 28B

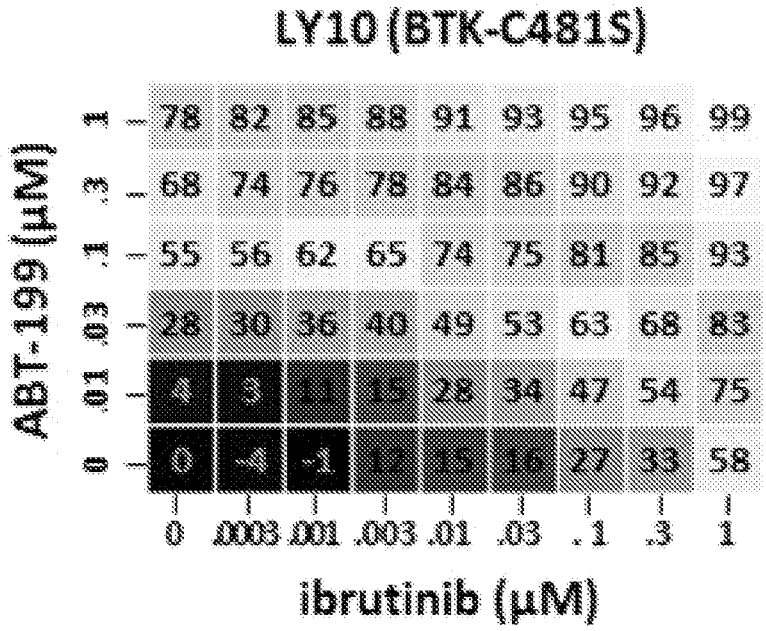


Fig. 28C

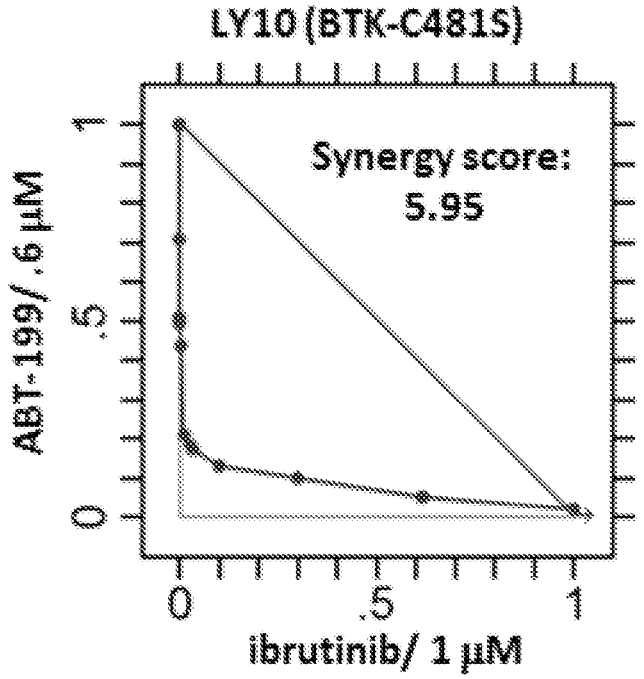


Fig. 28D

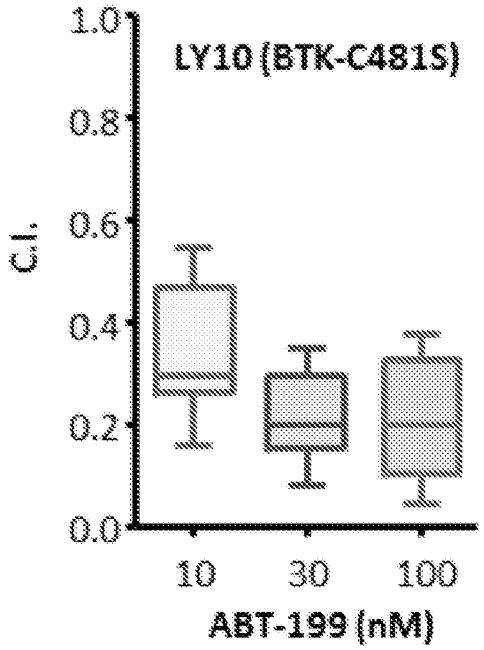


Fig. 28E

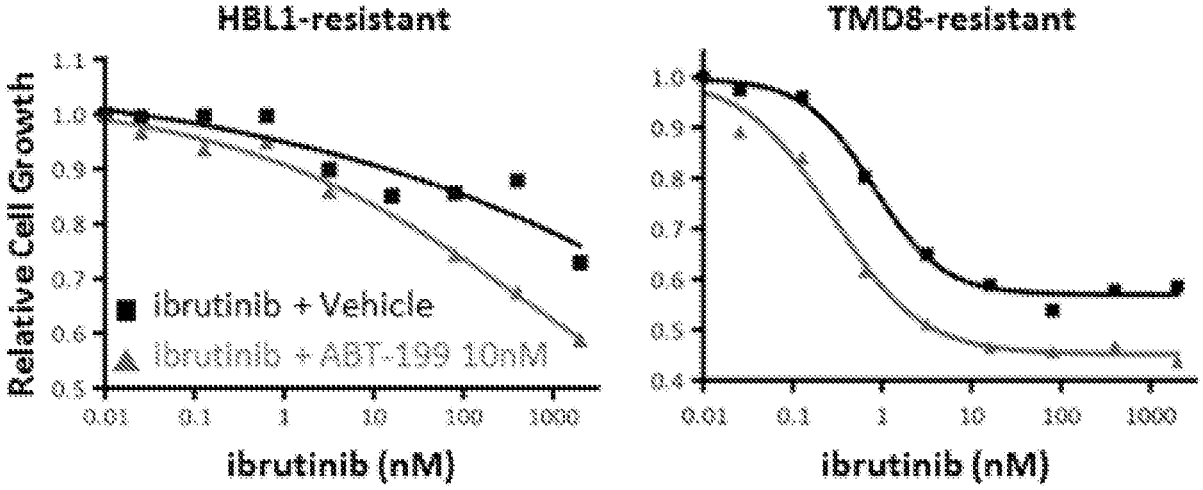


Fig. 28F

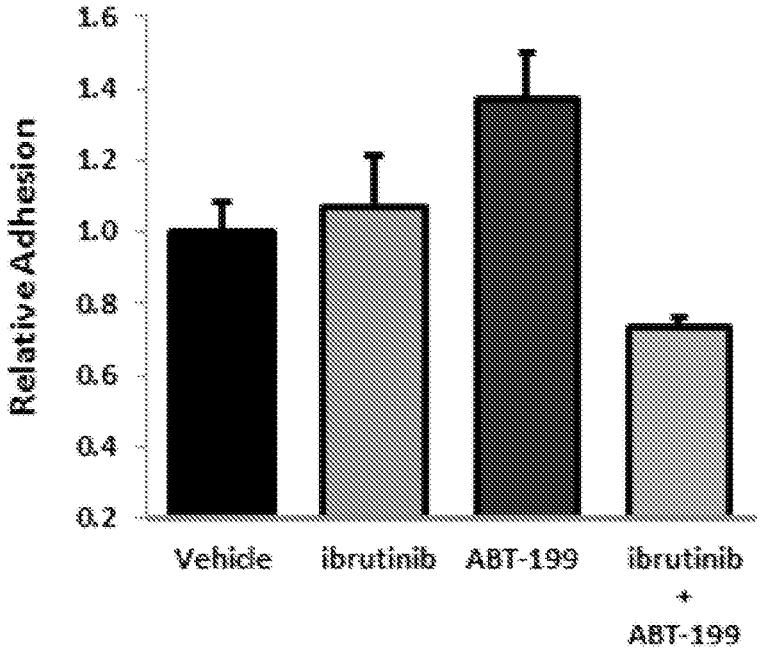


Fig. 28G

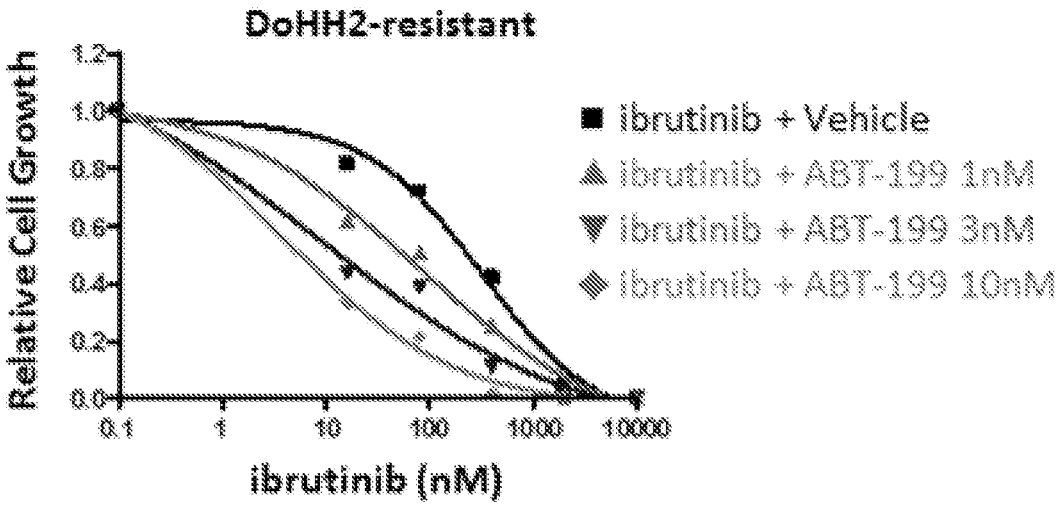


Fig. 28H

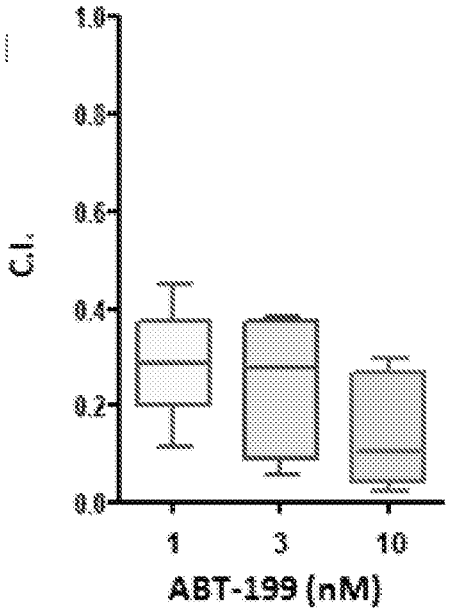


Fig. 29A

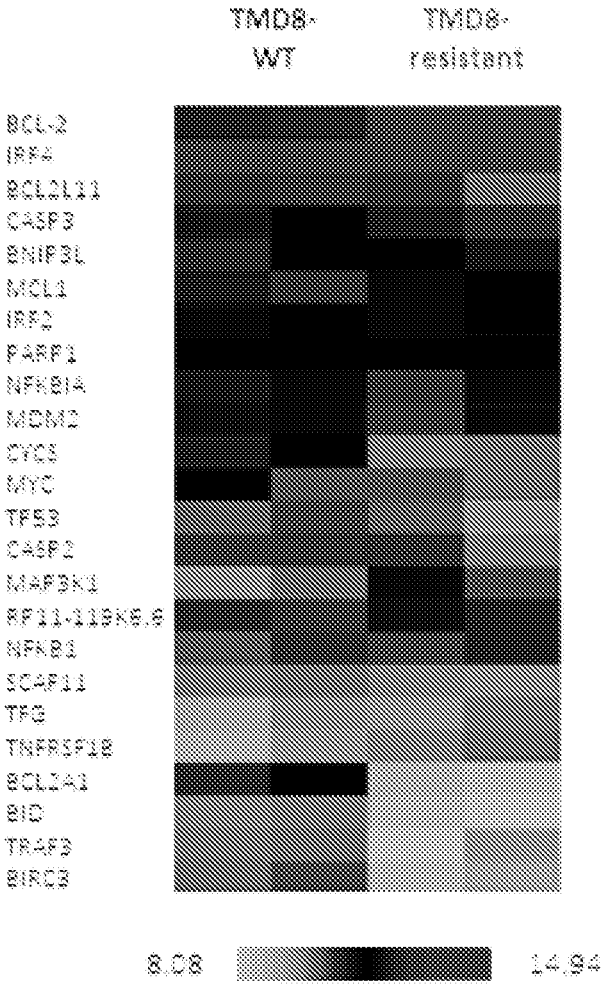


Fig. 29B

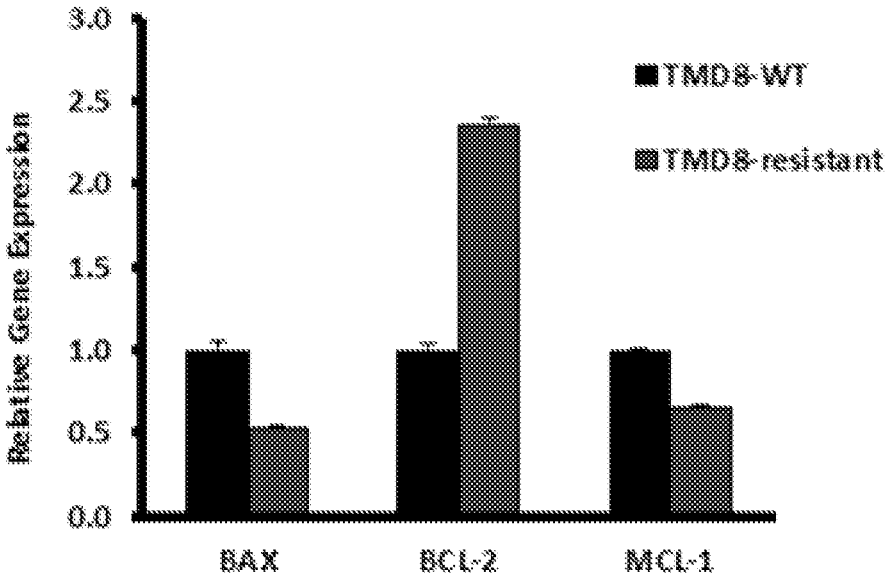


Fig. 29C

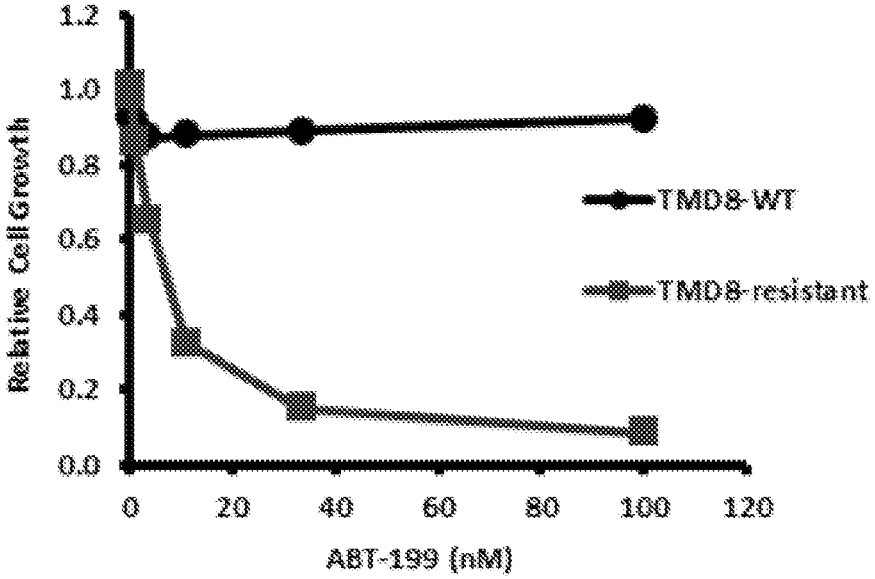


Fig. 29D

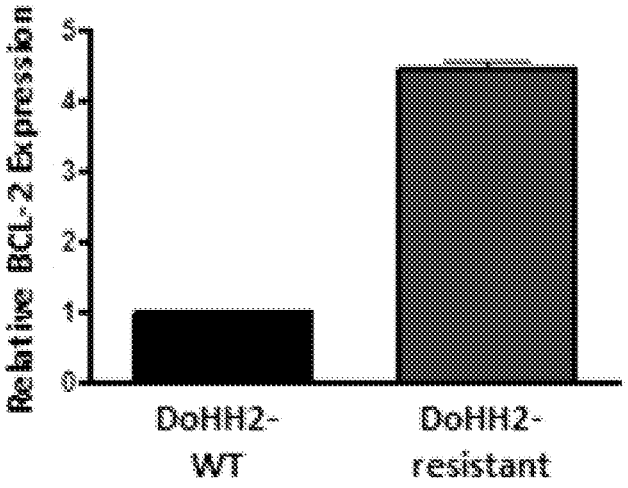


Fig. 30A

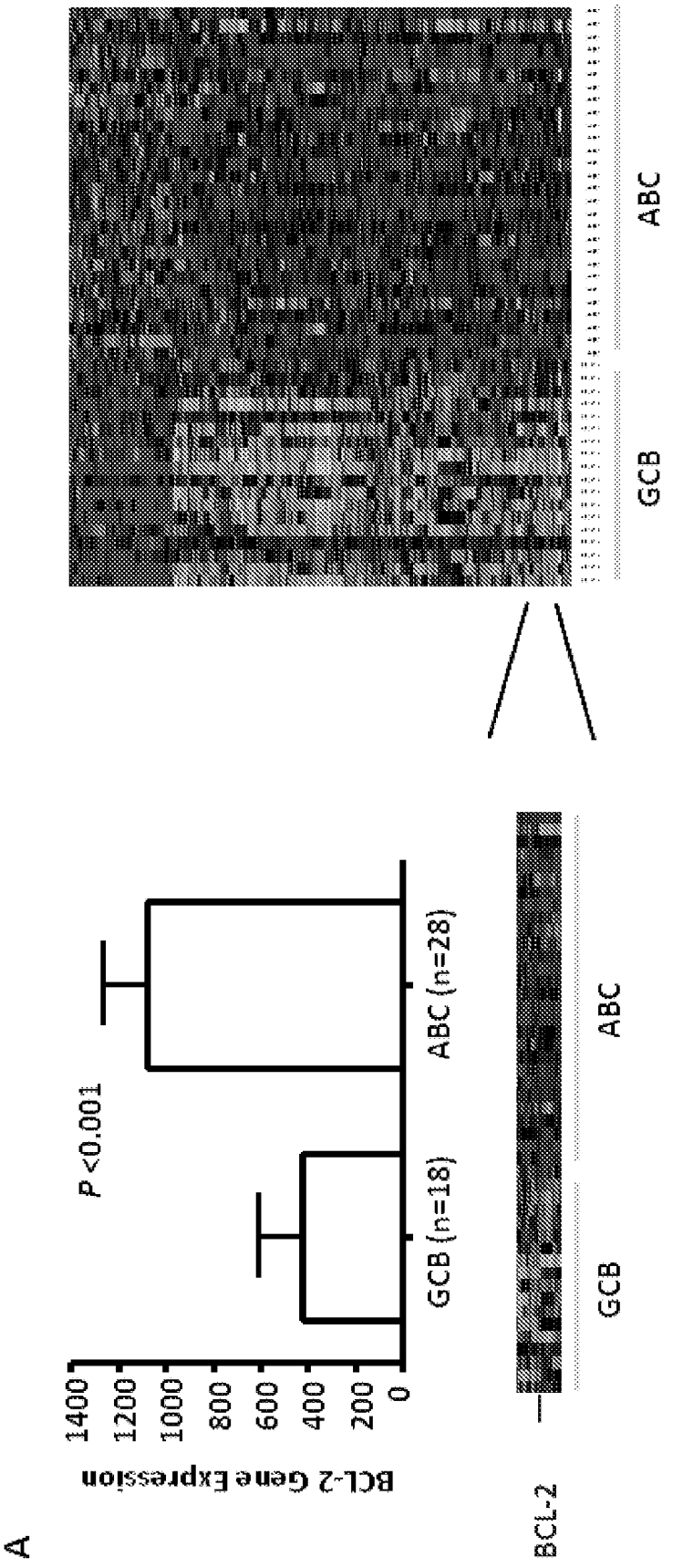

A
BCL-2 Gene Expression
1400
1200
1000
800
600
400
200
0
P <0.001
GCB (n=18)
ABC (n=28)
BCL-2
GCB
ABC
GCB
ABC

Fig. 30B

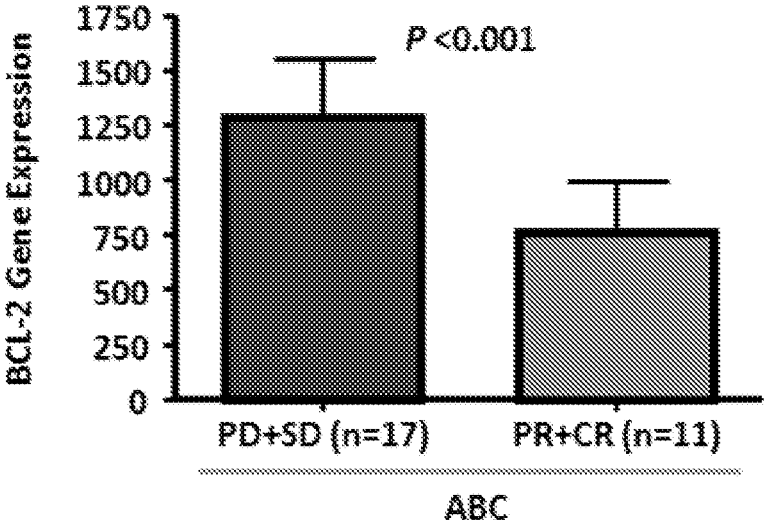


Fig. 30C

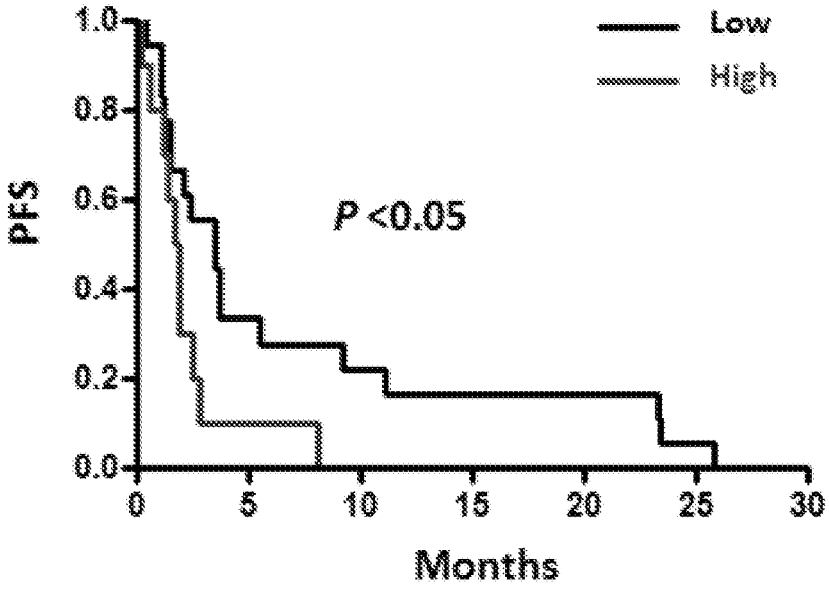


Fig. 31

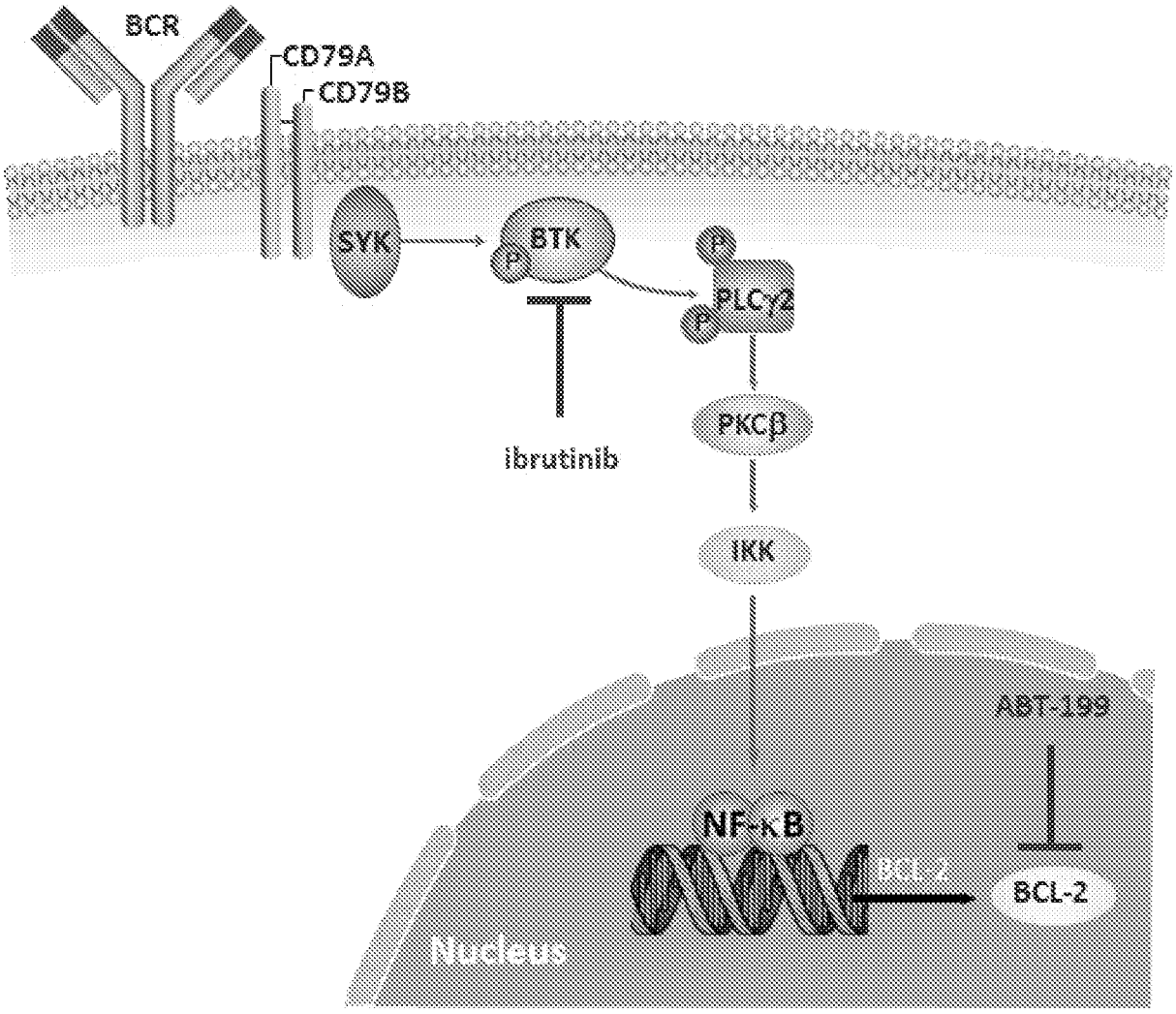

BCR
CD79A
CD79B
SYK
BTK
P
P
P
PLCγ2
PKCβ
ibrutinib
IKK
ABT-199
NF-κB
BCL-2
BCL-2
Nucleus

Fig. 32A

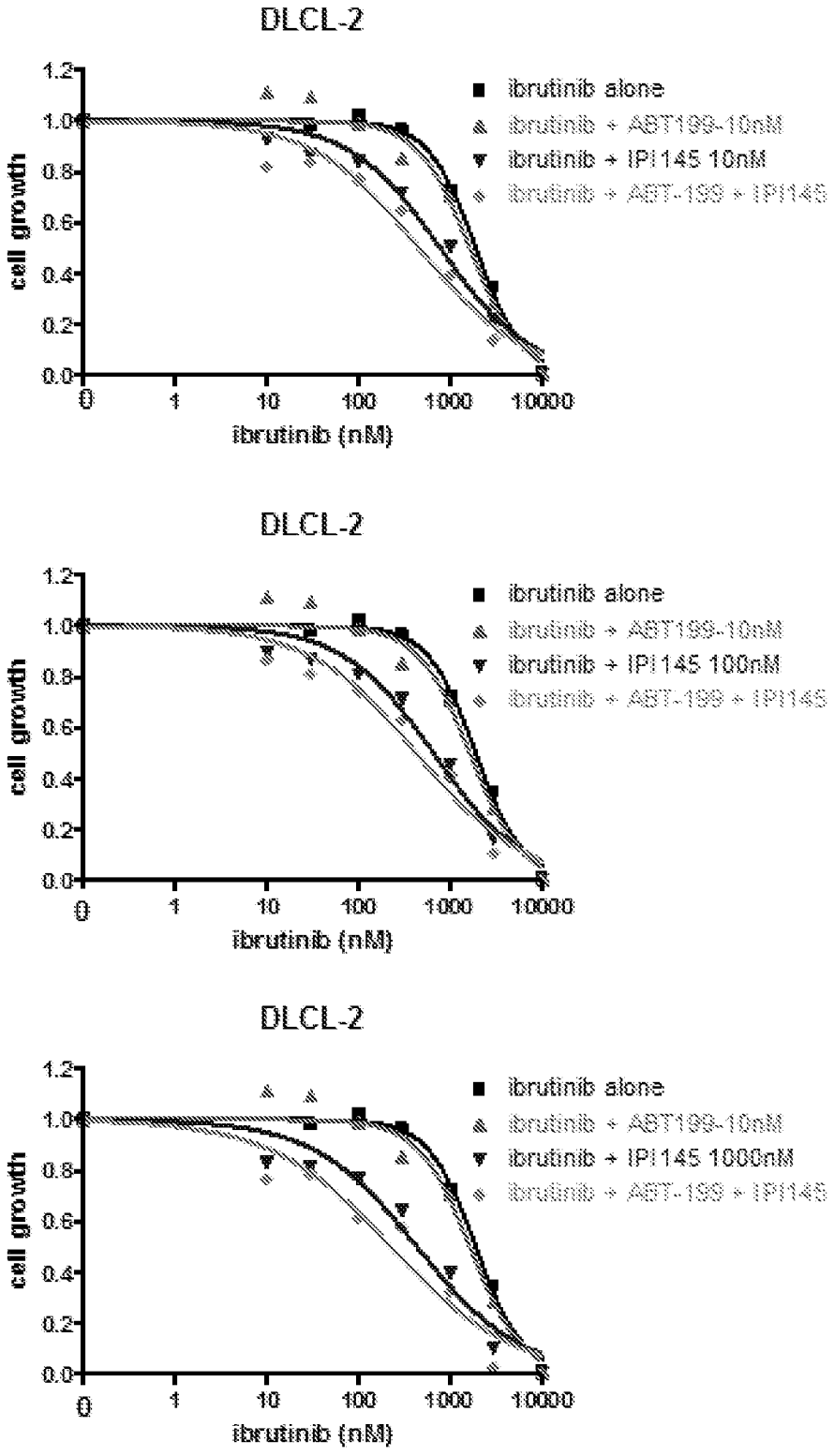

DLCL-2
cell growth
ibrutinib (nM)
ibrutinib alone
ibrutinib + ABT199-10nM
ibrutinib + IPI145 10nM
ibrutinib + ABT-199 + IPI145
DLCL-2
cell growth
ibrutinib (nM)
ibrutinib alone
ibrutinib + ABT199-10nM
ibrutinib + IPI145 100nM
ibrutinib + ABT-199 + IPI145
DLCL-2
cell growth
ibrutinib (nM)
ibrutinib alone
ibrutinib + ABT199-10nM
ibrutinib + IPI145 1000nM
ibrutinib + ABT-199 + IPI145

Fig. 32B

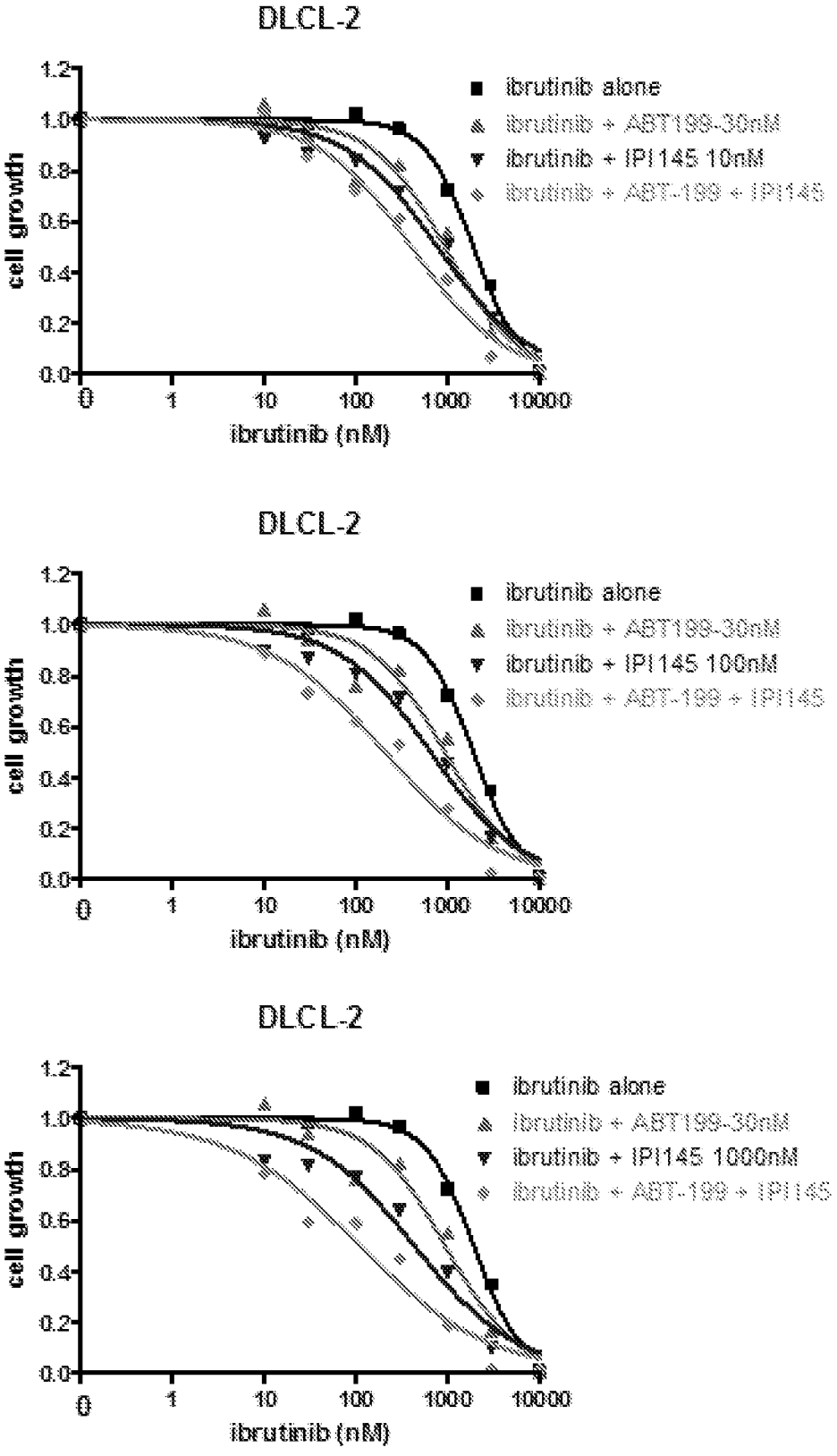

DLCL-2
cell growth
1.2
1.0
0.8
0.6
0.4
0.2
0.0
0
1
10
100
1000
10000
ibrutinib (nM)
ibrutinib alone
ibrutinib + ABT199-30nM
ibrutinib + IPI145 10nM
ibrutinib + ABT-199 + IPI145
DLCL-2
cell growth
ibrutinib (nM)
ibrutinib alone
ibrutinib + ABT199-30nM
ibrutinib + IPI145 100nM
ibrutinib + ABT-199 + IPI145
DLCL-2
cell growth
ibrutinib (nM)
ibrutinib alone
ibrutinib + ABT199-30nM
ibrutinib + IPI145 1000nM
ibrutinib + ABT-199 + IPI145

Fig. 32C

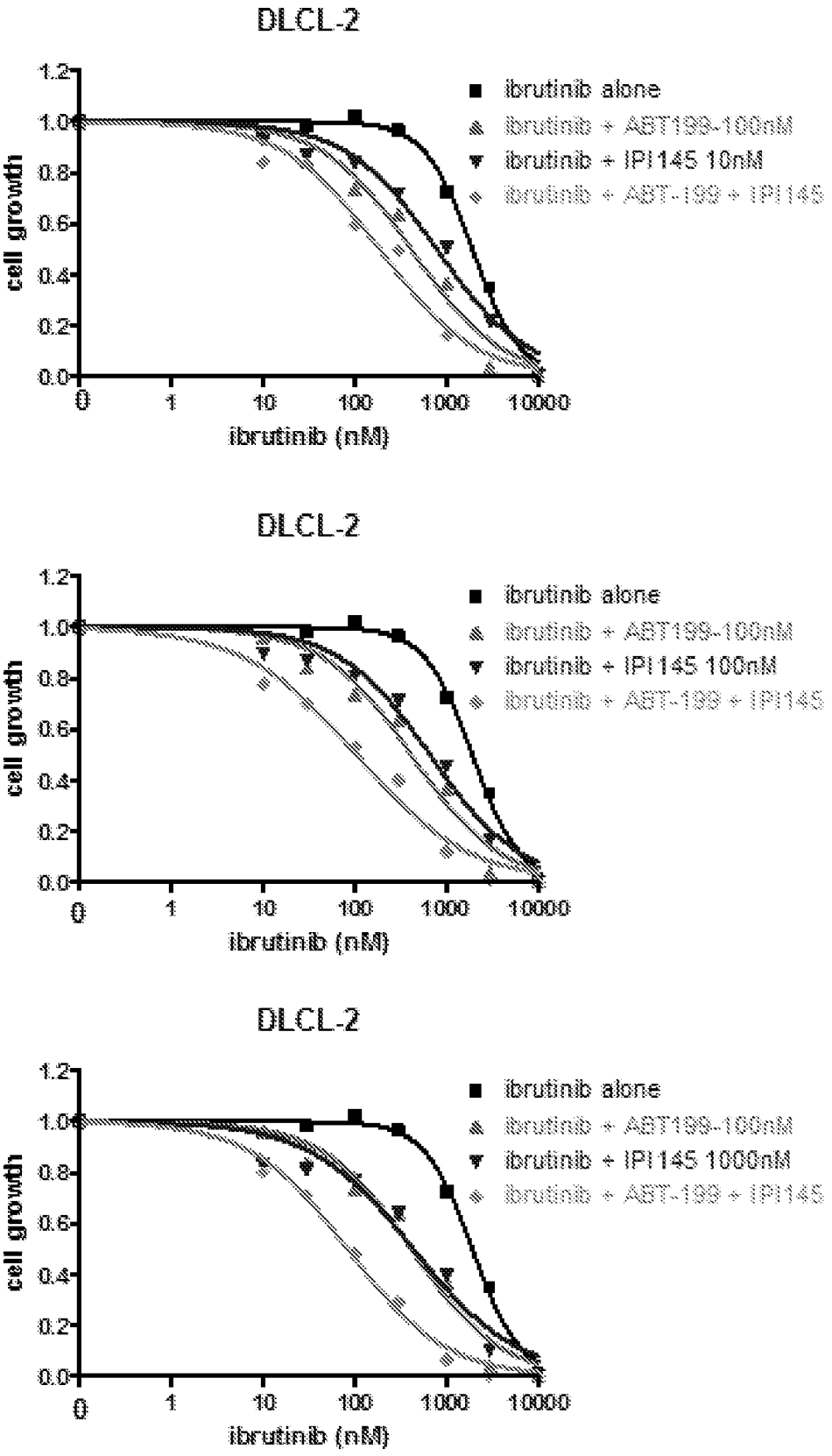

DLCL-2
cell growth
ibrutinib (nM)
ibrutinib alone
ibrutinib + ABT199-100nM
ibrutinib + IPI145 10nM
ibrutinib + ABT-199 + IPI145
DLCL-2
cell growth
ibrutinib (nM)
ibrutinib alone
ibrutinib + ABT199-100nM
ibrutinib + IPI145 100nM
ibrutinib + ABT-199 + IPI145
DLCL-2
cell growth
ibrutinib (nM)
ibrutinib alone
ibrutinib + ABT199-100nM
ibrutinib + IPI145 1000nM
ibrutinib + ABT-199 + IPI145

Fig. 33A

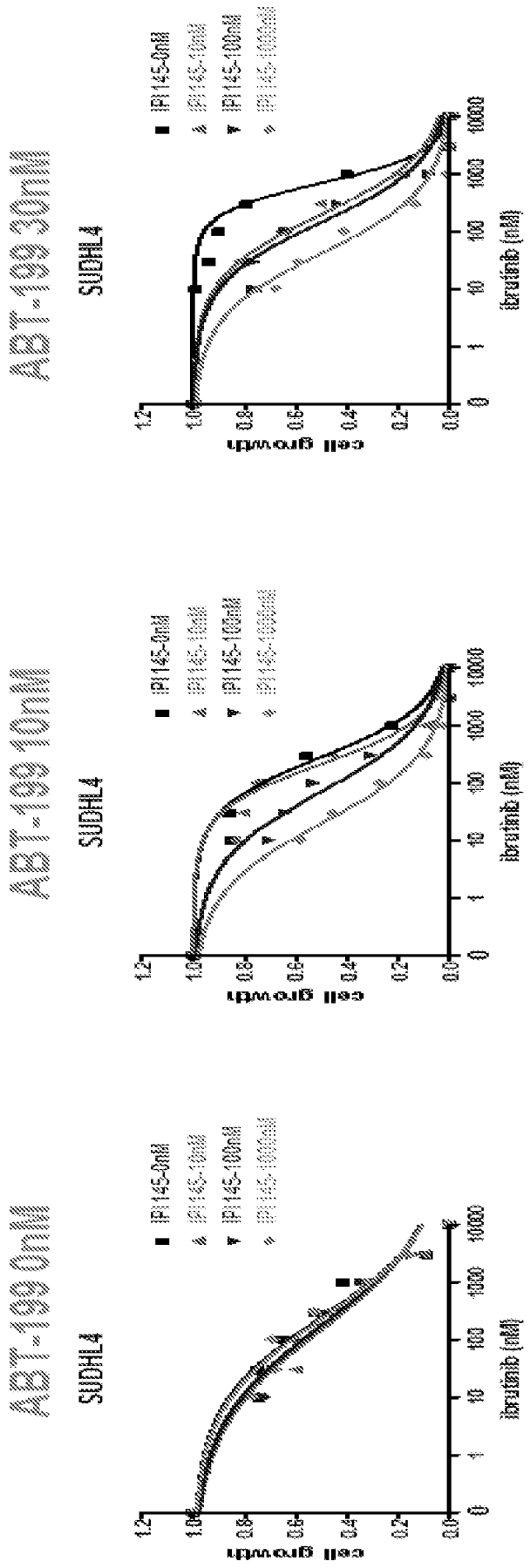

ABT-199 0nM
SUDHL4
ABT-199 10nM
SUDHL4
ABT-199 30nM
SUDHL4
IPI145-0nM
IPI145-10nM
IPI145-100nM
IPI145-1000nM
cell growth
ibrutinib (nM)
0
1
10
100
1000
10000
0.0
0.2
0.4
0.6
0.8
1.0
1.2

Fig. 33B

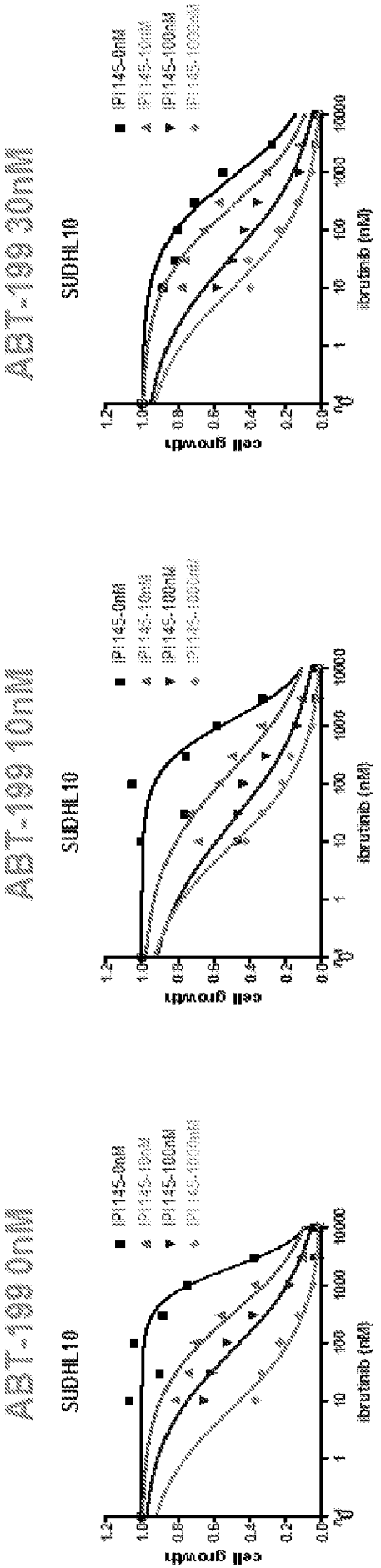

ABT-199 0nM
SUDHL10
ABT-199 10nM
SUDHL10
ABT-199 30nM
SUDHL10
IPI145-0nM
IPI145-100nM
cell growth
ibrutinib (nM)

Fig. 33C

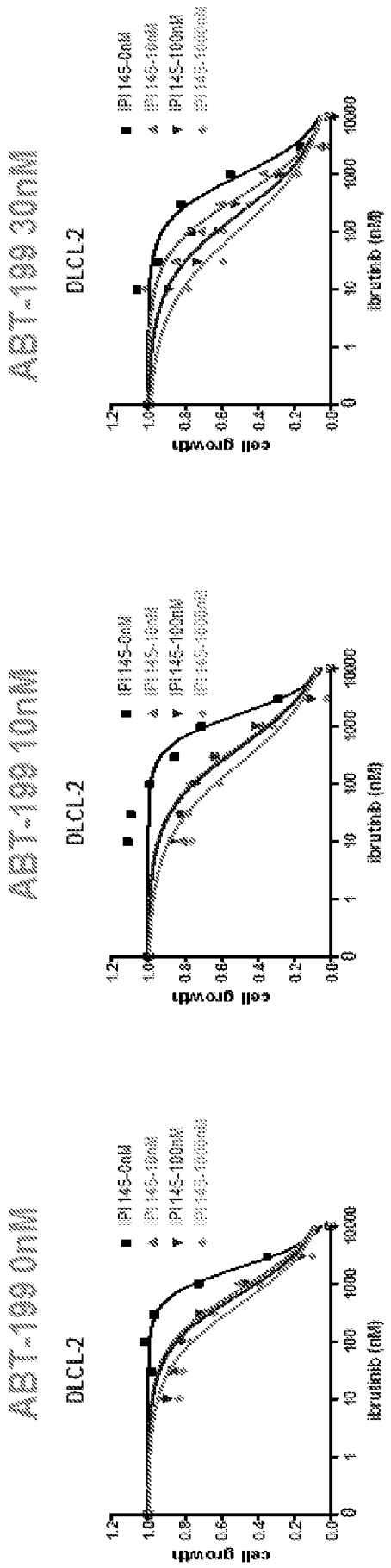

AET-199 0nM
AET-199 10nM
AET-199 30nM
BLCL-2
cell growth
ibrutinib (nM)
IPI145-0nM
IPI145-100nM

Fig. 34

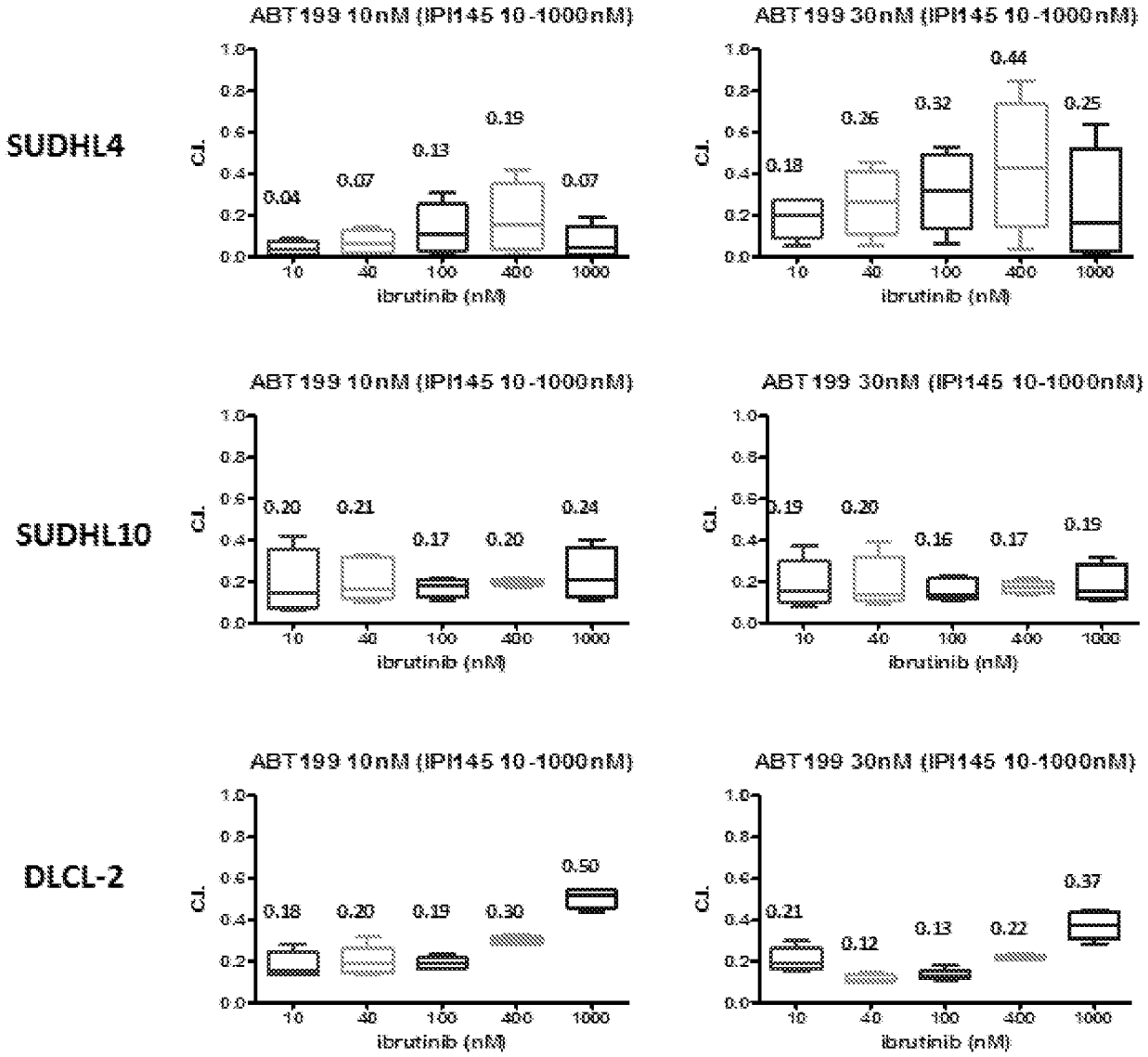

SUDHL4
ABT199 10nM (IPI145 10-1000nM)
ABT199 30nM (IPI145 10-1000nM)
SUDHL10
ABT199 10nM (IPI145 10-1000nM)
ABT199 30nM (IPI145 10-1000nM)
DLCL-2
ABT199 10nM (IPI145 10-1000nM)
ABT199 30nM (IPI145 10-1000nM)
C.I.
ibrutinib (nM)
10
40
100
400
1000
0.0
0.2
0.4
0.6
0.8
1.0
0.04
0.07
0.13
0.19
0.07
0.18
0.26
0.32
0.44
0.25
0.20
0.21
0.17
0.20
0.24
0.19
0.20
0.16
0.17
0.19
0.18
0.20
0.19
0.30
0.50
0.21
0.12
0.13
0.22
0.37

Fig. 35A

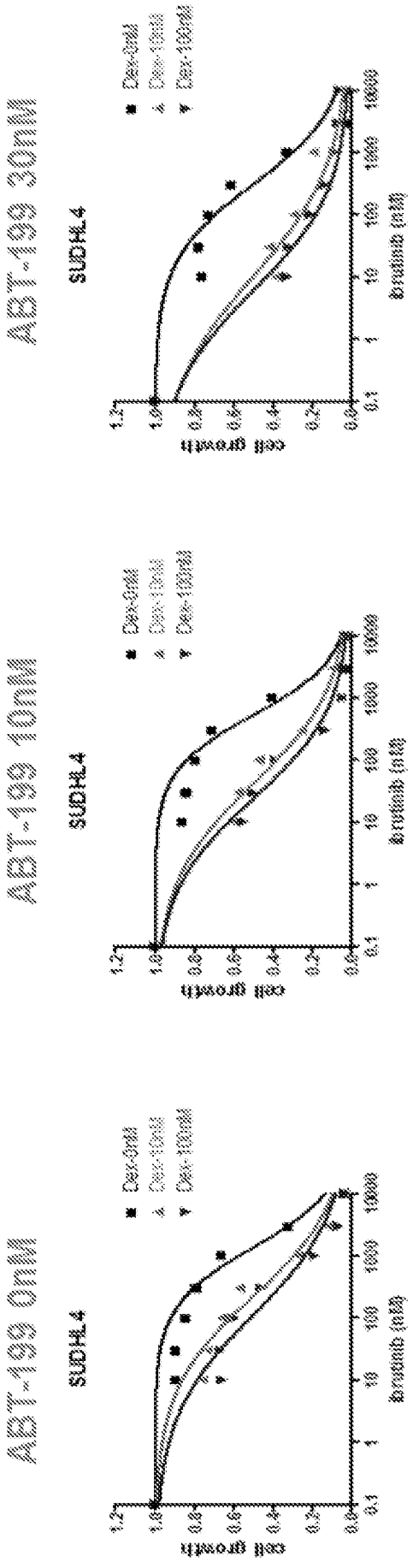

ABT-199 0nM
ABT-199 10nM
ABT-199 30nM
SUDHL4
Dex-0nM
Dex-10nM
Dex-100nM
cell growth
Ibrutinib (nM)

Fig. 35B

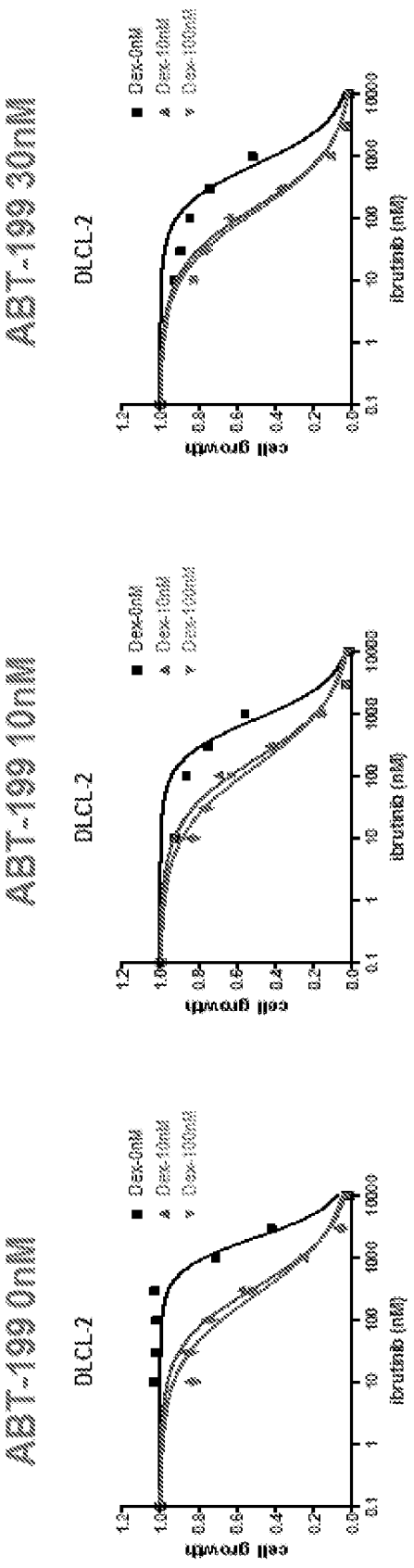

ABT-199 0nM
DLCL-2
ABT-199 10nM
DLCL-2
ABT-199 30nM
DLCL-2
Dex-0nM
Dex-10nM
Dex-100nM
cell growth
ibrutinib (nM)

Fig. 36A

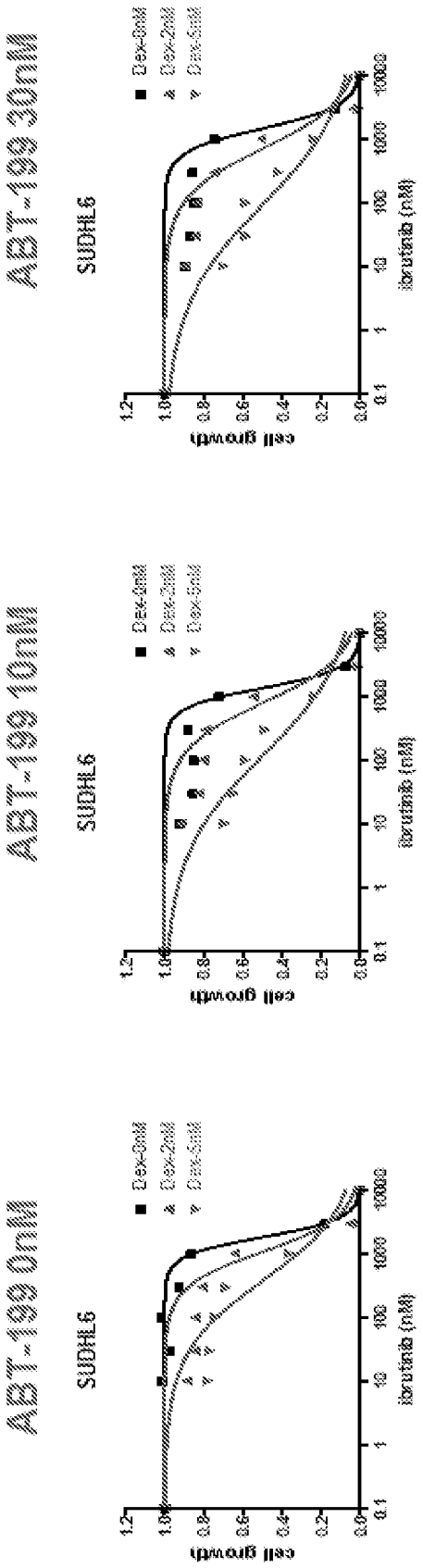

ABT-199 0nM
SUDHL6
ABT-199 10nM
SUDHL6
ABT-199 30nM
SUDHL6
Dex-0nM
Dex-2nM
Dex-5nM
cell growth
ibrutinib (nM)

Fig. 36B

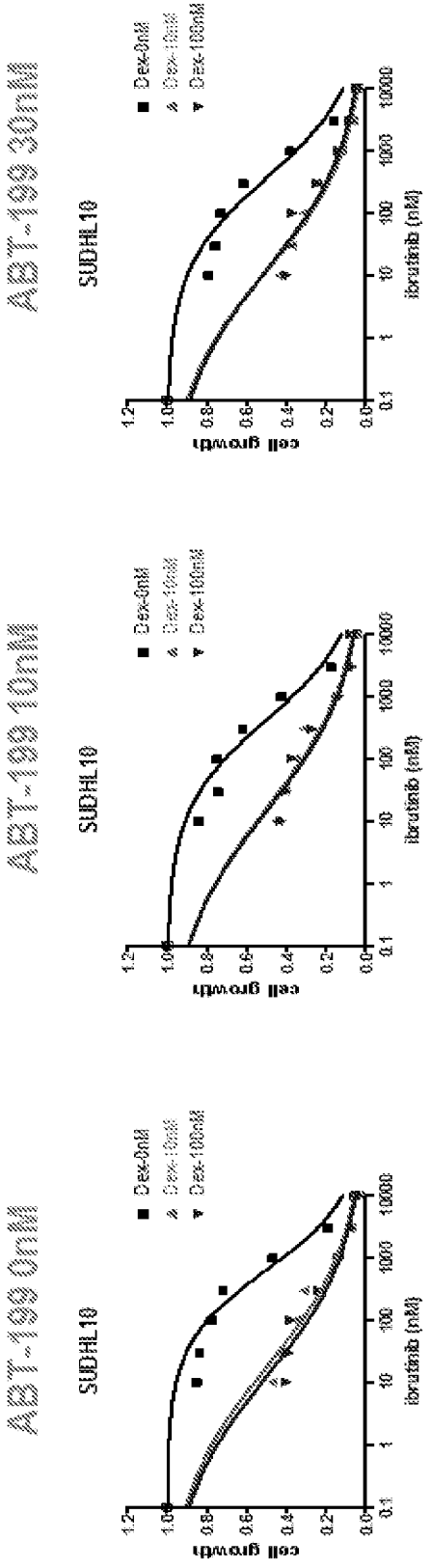

ABT-199 0nM
ABT-199 10nM
ABT-199 30nM
SUDHL10
Dex-0nM
Dex-10nM
Dex-100nM
cell growth
ibrutinib (nM)
0.0
0.2
0.4
0.6
0.8
1.0
1.2
0.1
1
10
100
1000
10000

Fig. 37

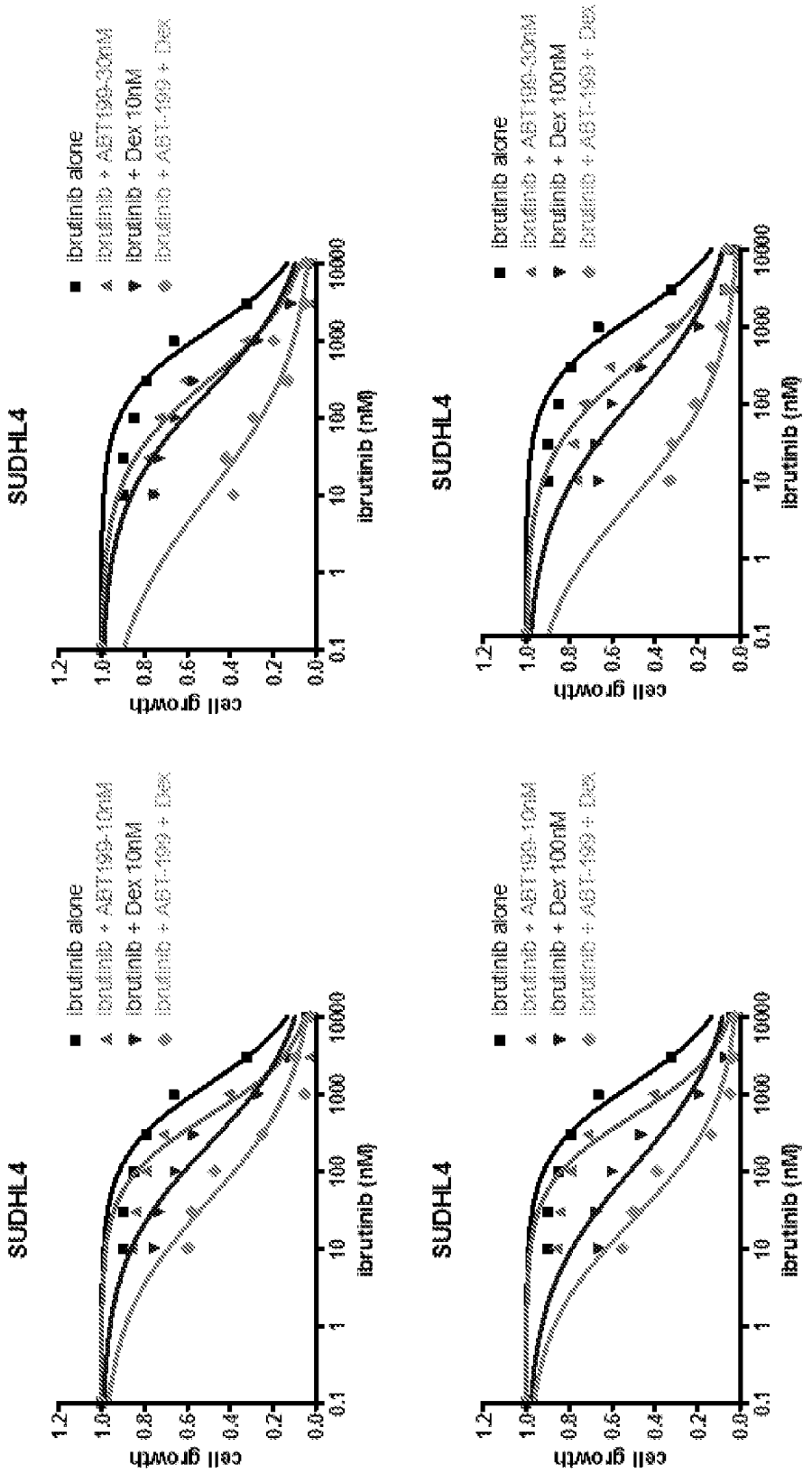

SUDHL4
ibrutinib alone
ibrutinib + ABT199-10nM
ibrutinib + Dex 10nM
ibrutinib + ABT-199 + Dex
ibrutinib + ABT199-30nM
ibrutinib + Dex 100nM
cell growth
ibrutinib (nM)
0.0
0.2
0.4
0.6
0.8
1.0
1.2
0.1
1
10
100
1000
10000

Fig. 38

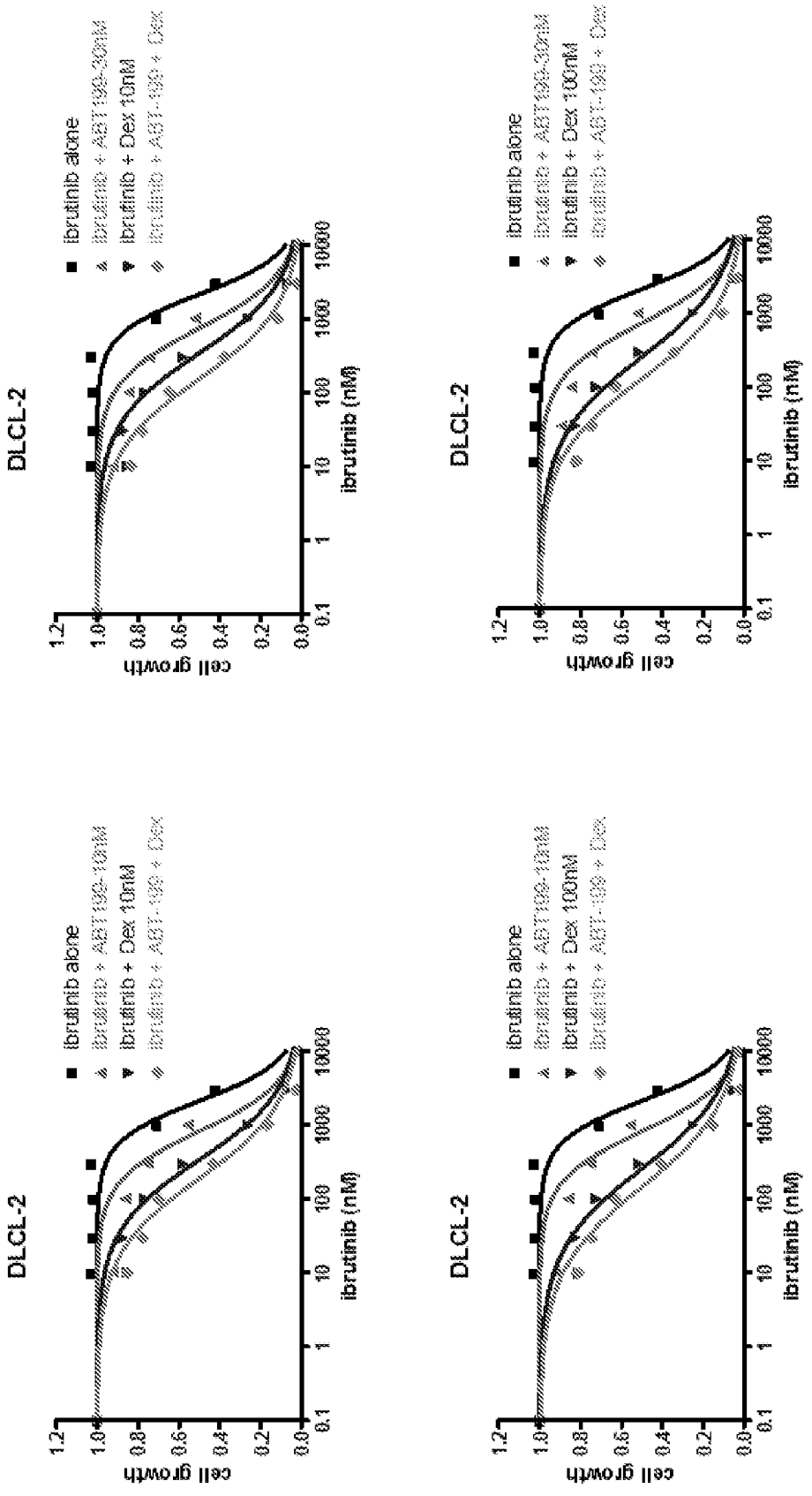

DLCL-2
ibrutinib alone
ibrutinib + ABT199-10nM
ibrutinib + Dex 10nM
ibrutinib + ABT-199 + Dex
ibrutinib + ABT199-30nM
ibrutinib + Dex 100nM
ibrutinib + ABT-199 + Dex
cell growth
ibrutinib (nM)
0.0
0.2
0.4
0.6
0.8
1.0
1.2
0.1
1
10
100
1000
10000

Fig. 39

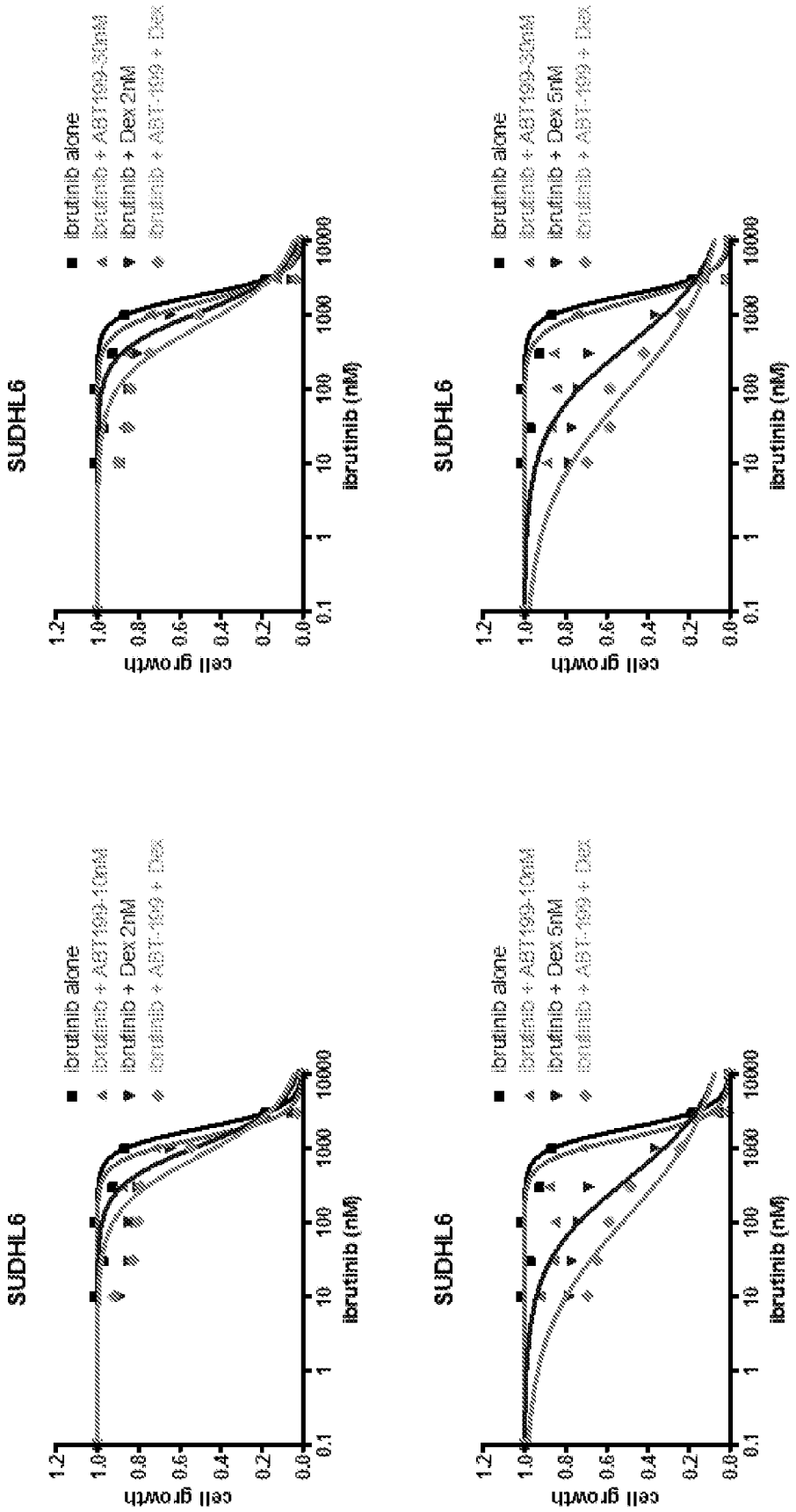

SUDHL6
ibrutinib alone
ibrutinib + ABT199-10nM
ibrutinib + Dex 2nM
ibrutinib + ABT-199 + Dex
ibrutinib + ABT199-30nM
ibrutinib + Dex 5nM
cell growth
ibrutinib (nM)
0.0
0.2
0.4
0.6
0.8
1.0
1.2
0.1
1
10
100
1000
10000

Fig. 40

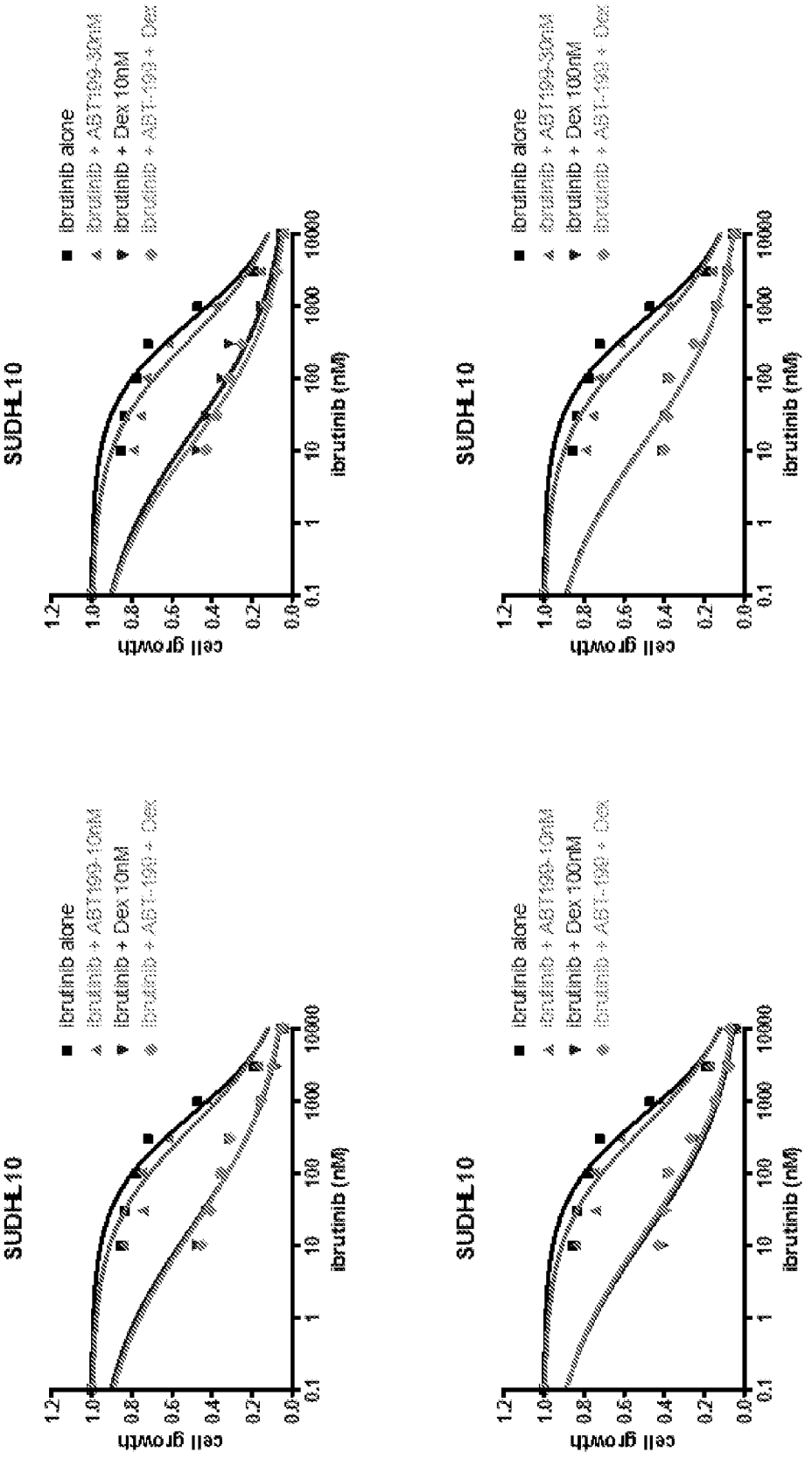
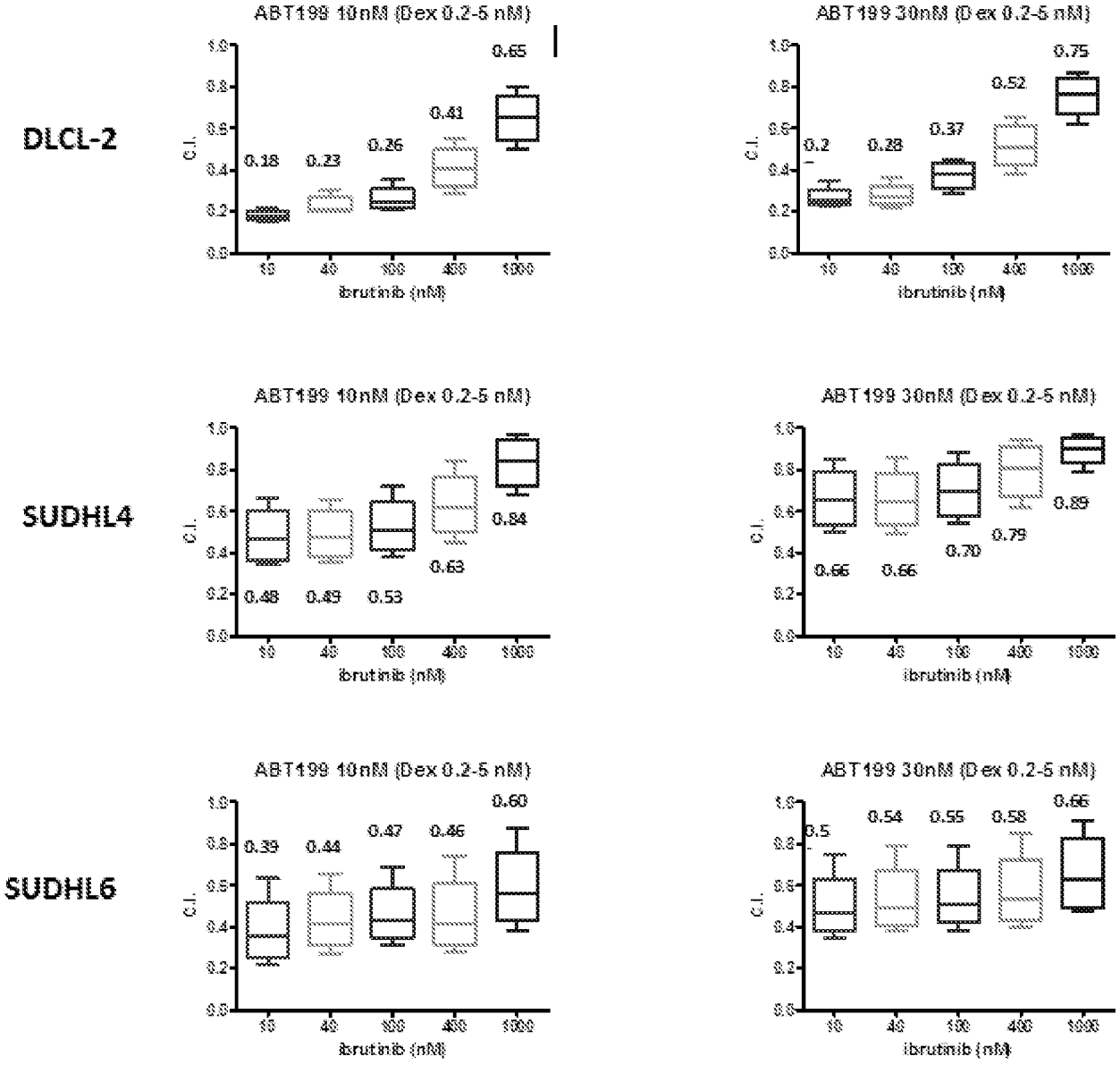

SUDHL10
ibrutinib alone
ibrutinib + ABT199-10nM
ibrutinib + Dex 10nM
ibrutinib + ABT-199 + Dex
SUDHL10
ibrutinib alone
ibrutinib + ABT199-30nM
ibrutinib + Dex 100nM
ibrutinib + ABT-199 + Dex
cell growth
ibrutinib (nM)
0.0
0.2
0.4
0.6
0.8
1.0
1.2
0.1
1
10
100
1000
10000

Fig. 41


DLCL-2
SUDHL4
SUDHL6
ABT199 10nM (Dex 0.2-5 nM)
ABT199 30nM (Dex 0.2-5 nM)
C.I.
ibrutinib (nM)
0.18
0.23
0.26
0.41
0.65
0.2
0.28
0.37
0.52
0.75
0.48
0.49
0.53
0.63
0.84
0.66
0.66
0.70
0.79
0.89
0.39
0.44
0.47
0.46
0.60
0.5
0.54
0.55
0.58
0.66