

図6 19化合物による RT-PCR の結果とクラスタリング解析結果

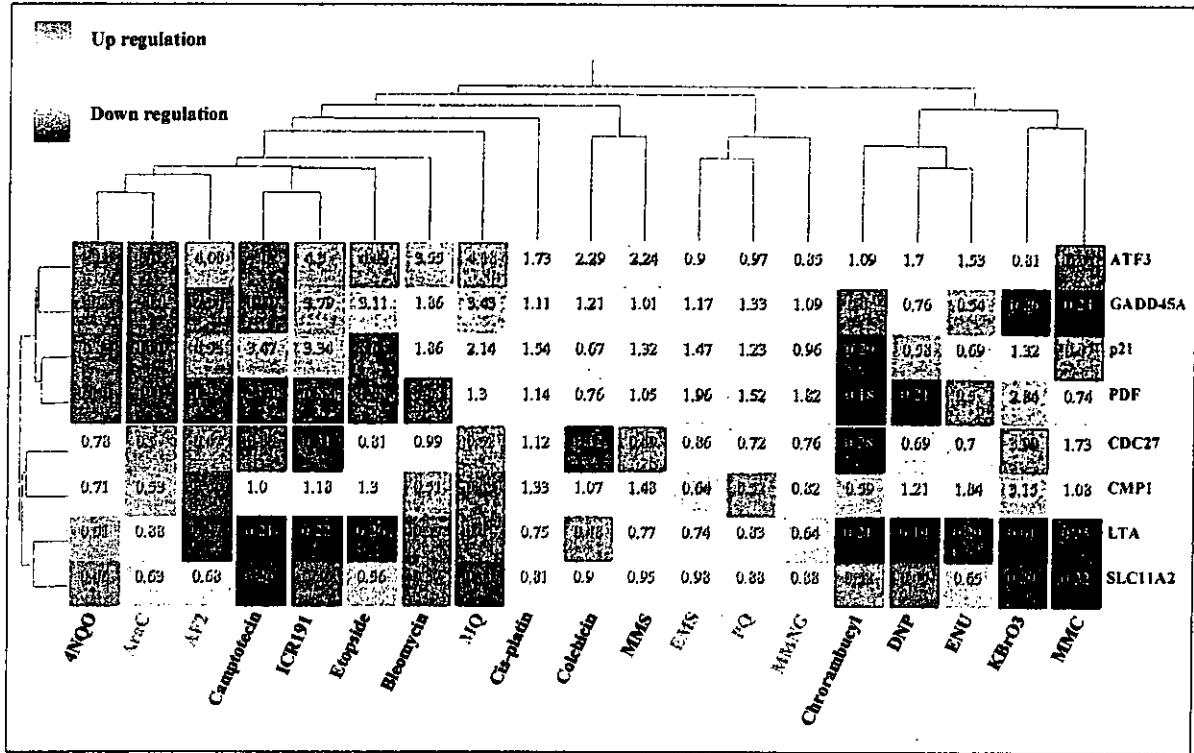


表12 GeneChip 解析に追加した化合物とその作用機序に基づくグループ分け

表 1 2 使用した薬物の処理濃度と TK6 細胞に対する細胞毒性データ

	Dose	RSG%	PE0	RS%
6-MP	0.6 $\mu$ g/ml	71.21	0.58	71.51
5-FU	3.0 $\mu$ g/ml	68.46	0.67	82.40
FZ	80 $\mu$ g/ml	42.55	0.50	61.97
H2O2	30 $\mu$ M	54.39	0.50	61.97
BLM	1 $\mu$ g/ml	46.25	0.23	28.91
KBrO3	2.5mM	48.78	0.41	50.33
PA	500 $\mu$ g/ml	78.59	0.29	36.27
NaCl	5mg/ml	80.6	0.41	50.33
EtOH	4%	62.99	0.43	53.48
Chx	150 $\mu$ g/ml	68.65	0.58	71.51
cont		-	0.81	100

※ RSG: Relative Suspension Growth (処理後 3 日間の細胞増殖率)

PE0: Plating Efficiency 0 (4 時間処理後のコロニー形成率)

RS% Relative Survival (コントロールに対する PE0 の割合)

表 1 3 各薬物処理により発現が変化した遺伝子数

	Up regulation	Down regulation
5-FU	98	309
6-MP	15	38
Arac	107	108
BLM	72	440
KBrO3	151	172
PQ	5	14
AF2	59	163
FZ	120	321
EMS	20	11
MNNQ	29	150
MQ	187	273
PA	148	389
Chx	274	128
EtOH	141	72
NaCl	171	174



表 1 6 同一グループ内の薬物に共通性をもって変化した遺伝子

(発現上昇した遺伝子)

**5-FU 8-MP AraC**

protein phosphatase 1D magnesium-dependent, delta isoform  
 eukaryotic translation initiation factor 5A  
 thioredoxin interacting protein  
 BTG3 associated nuclear protein  
 dihydrofolate reductase

**BLM KBrO3 PQ**

cyclin-dependent kinase inhibitor 1A (p21, Cip1)

**FZ AF2**

activating transcription factor 3  
 heterogeneous nuclear ribonucleoprotein D  
 protein phosphatase 1D magnesium-dependent, delta isoform

**FMS MNQ MQ**

mitogen-activated protein kinase kinase 2  
 ets variant gene 5 (ets-related molecule)  
 tubulin, beta polypeptide  
 protein tyrosine phosphatase, non-receptor type 2

**Chx PA NaCl EtOH**

F-box and leucine-rich repeat protein 11  
 protein phosphatase 1, regulatory (inhibitor) subunit 15A  
 solute carrier family 38, member 2  
 TAL1 (SCL) interrupting locus  
 sterol-C4-methyl oxidase-like  
 DEAD/H (Asp-Glu-Ala-Asp/His) box polypeptide 26

(発現抑制した遺伝子)

**5-FU 8-MP AraC**

transgelin 2  
 beta 5-tubulin  
 enolase 1, (alpha)  
 v-myc myelocytomatosis viral oncogene homolog (avian)  
 Epstein-Barr virus induced gene 2  
 calnexin  
 phosphoprotein regulated by mitogenic pathways

**BLM KBrO3 PQ**

testis zinc finger protein  
 ferredoxin 1

**FZ AF2**

G protein-coupled receptor 43  
 testis zinc finger protein  
 Epstein-Barr virus induced gene 2  
 interferon regulatory factor 4

**MNQ MQ FMS**

SEC23 interacting protein  
 DKFZP434D193 protein

**NaCl Chx PA EtOH**

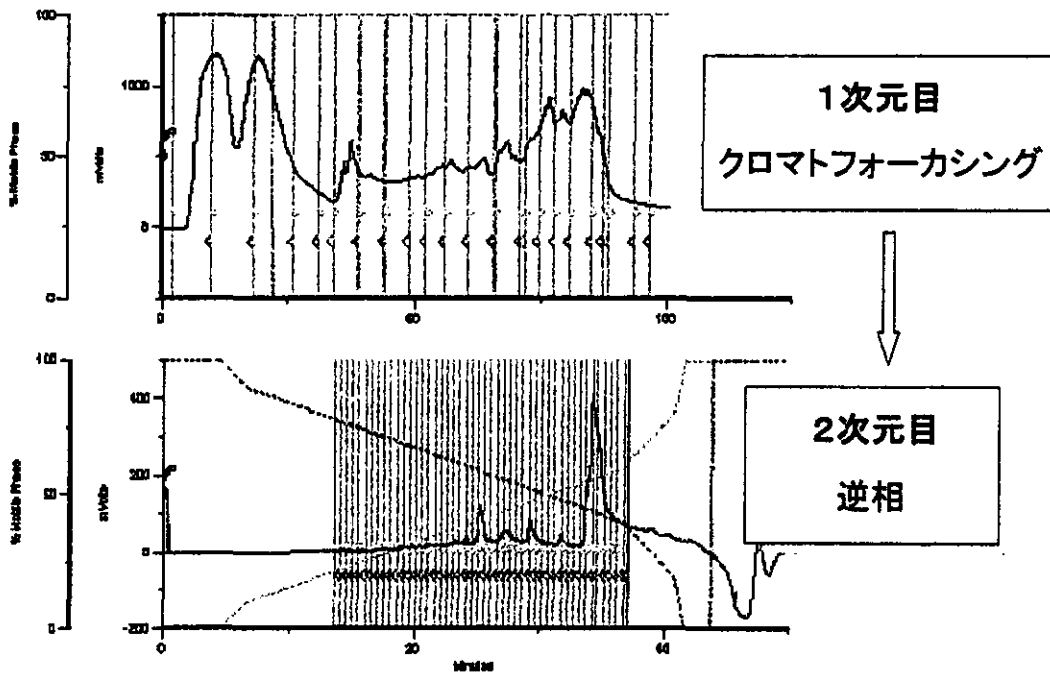
v-myc myelocytomatosis viral oncogene homolog (avian)  
 heat shock 70kDa protein 1A  
 CDC42 effector protein (Rho GTPase binding) 3  
 fucosyltransferase 4  
 Epstein-Barr virus induced gene 2  
 interferon regulatory factor 4  
 splicing factor, arginine/serine-rich 1  
 cyclin-dependent kinase 9 (CDC2-related kinase)  
 hypothetical protein FLJ20398  
 chemokine (C-C motif) ligand 3  
 jun B proto-oncogene  
 similar to H2B histone family, member F  
 D199s Mutant Of Bovine 70 Kilodalton Heat Shock Protein  
 Rho GDP dissociation inhibitor (GDI) alpha  
 myristoylated alanine-rich protein kinase C substrate  
 leucine carboxyl methyltransferase 2  
 mitochondrial ribosomal protein 63  
 core-binding factor, beta subunit  
 H2A histone family, member X  
 papillomavirus L2 interacting nuclear protein 1  
 SET binding factor 1  
 KIAA1196 protein  
 RAN binding protein 6  
 eukaryotic translation initiation factor 4A, isoform 1  
 zyxin  
 zinc finger protein 325



図9 2次元液体クロマトグラムシステム



図10 タンパク質溶液の2次元分離例



別添6

## 研究成果の刊行に関する一覧表

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雑誌

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