

in vitro b k

ihelbg B. < . * , Gbdhegdh . G **

*Bgkblm wdhljbg b lhdkbdheh]bb bf. E.B. HA Mdbgu
** "E[hliby bk "

Kihglgguc fmlpbhgguc ihpkk , ihklhyggh bmsbc ihh , yeylky hgbf
ba blmsbo kbe whexpbb b bklhqqbdhf ihemqgby bkohgh]h flbe ey kedpbb ,
gh dd ibeh , wlh ihpkk odlbamlky gukhdbfb lfihb . < 20-0]h0 gr]h
klhelby kle hqbghe hafh]ghklv bglgkbnbdpbb ihpkk gkeklgghe
bafgqbhklb imlf haekly g]glbqkdbc iil nbadhd- obfbqkdbfb
ndlhb . Ahbeky wdkibfglevguc fml]ga . Ja]hd wlhc ih]efu ihdae
hafh]ghklv]meypbb fmlpbhgg]h ihpkk g lhevdh g legbb mebqgby
lfih kihglgg]h fmlbhgby , gh b hafh]ghklv kgb]gby]h lfih imlf
haekly g h]gbaf obfbqkdbfb ndlhb . Novick, Szilard (1952) ihdae , qlh
gb km ey ihshgby [dlbc obfbqkdb kbbggbc , hlgkysboky d
dekkm imbghuo gmdehabh , ibhb d agqblevghfm kgb]gbx mhgy kihglgghe
fml]hevghklb . lh yegby ihemqbeh gagb glbml]ga , skl , h]exsb
mdaggufb khcklfb , kleb gaulvky glbml]gfb [1]

Ihfbh wnddlbgkklb asblgh]h eklby glbml]g , keml mqbtlv s
y iflh : nfdhdbglbqkdb , lhdkbqkdb odlbklbdb skl ,
hafh]ghklv]h khqlgby k fhbnppbm]uf]ghf m qehd b]b
odlbklbdb , h]yalvgu ib a]hd d]h]h edklgg]h kkl .
Hkh]ggh]gufb ikleyxky hdebgbqkdy hpgd [ahiklghklb glbml]g ,
dexqxy bkkehgy]h lhdkbqghklb , fml]ggkklb , wfbhlhdkbqghklb ,
lh]ggkklb , bffmg]hlhdkbqghklb , b bamqgb khfk]bfhklb ihldh b fml]g
dd klhqd agby aq nfdheh]bb , keb qv b h fml]gghf edkl , ld b k
ihabpbbc [aghklb ib ihnbeklbd fml]ga mahhuo exc . < h ko kemqyo
[khexlgh gh]ohbfh , qlh]u wndd glbml]g [ue ih]g g wli
debgbqkdb bkiulgbc . ey wlhc peb eh]bqgh bkihevahtv mql ohfhkhfguo
]bc deldo ibnbqkfdhc dhb . Bfggh ld [ueh ih]gh
glbml]ggh eklb [fb]be ih h]ghrgbx d bhdkbgm b ihdag glbml]gguc
wndd kdh]bghhc dbkehtu g [h]qbo , ih]xsboky ebygbx fml]gguo
ihbahklgguo ndlhb [2].

- Bamqgb dlbgkklb iill [b]ke R , dnlhb yeyehkv pev
, khklhyeh ba kemxsbo wlih :
• fml]gghe dlbgkklb iill [a b k fl]hebqkdhc dlbpb
• eklby iill khfk]gh k fml]gfb : blhfbpbgf b
Pbdehnhkngf g dmevlmm ebfnhpblh ibnbqkdhc dhb in vitro.
• dlbgkklb iill ib eklb g dmevlmm ebfnhpblh
ibnbqkdhc dhb in vitro [hevguo nb]hfbhfb [a b k fl]hebqkdhc
dlbpb .

[bkhe] ^R ~~mevlnf~~ ikley□ kh[hc] fhedmeygu□ dhfiēdk
 g[edhuo] ibhguo h]gbqkdbo khbgbgc g]hfhgevghc ibhu [bh]gh]h
 ihbkoh]gby □ klh□ glby oehb□ bah]hgbqkd]h 0,9 % b kh]b□
 gbadhfhedmeygu□ , lfhl]hevgu□ dhfihgg]u delhqguo ff]g delhd
 wf]bhgevghc ldgb dmbguo beb mlbguo ahure□ , □lh] qbke□ iilbu (28,0 – 60,0
 %), fbghdbkehtu (0,5 – 31,5 %), m]eh□ (16,0 – 25,0 %), ebibu b gmdehlbu (0,5 –
 17,0 %). Kmohck iill□ h□11 h 17 f] /fē.

≡eguf eklm]xsf□ gqehf□ iill□ , hiexsbf kipbnbqkdmx□
 iilbqkdmx□ wnn]lbgk]v , veyx]ky iilbu k]fhedmeyghc fkkhc 5 – 7 d□ , qlh
 ih]l]ky amevl]fb gēba□ [bheh]bqkdhc d]lbgk]b ndpbc□ , ihemqgguo
 flhf□ mevl]bev]pbb g□ ff]go□ , kh]ekgh fhedmeyguf fkkf□ dhfihgg]h□
 iill□

h **b** **h** . Ebfnhpblu ibnbqkdhc d]h dmevl]bbheh
 kh]l]k]ggh h[sibgyl]fm flm g]h□ [3] g□ ihly]gbb 52 qkh□ k
 fhbnbdpbyfb , ibgyluf□ e[h]h]bb [4], qlh ihaheh bkkeh]v deldb ih]h
 fblha□ . ≪ wdkibfg]□ bkihevaheb dmevl]m ebfnhpblh□ , ihemqggmx h□ id]l]bqkdb
 ah]h]h hgh□ -]gsbgu 36 e□ , d]l]y g□ ibghfē□ f]pbgkdbo iill□ b g□
 ihohbe□ □ lqgb□]h□ g]l]gheh]bqkdbo bkkeh]gc . H]h□ fl]nagu□
 iek]l]ghd ey pbl]h]gl]bqkd]h gēba□ , dekkbnbdpby b flh□ ihkq]□ [pbc□
 ohfhkhf [ueb h[sibgyluf□ [5,6], gh gmiehbgu□ deldb ihkq]blueb k
 fhbnbdpbyfb , ibgyluf□ e[h]h]bb [7]. ey pbl]h]gl]bqkd]h gēba□
 bkihevaheb fl]nagu□ iek]l]gdb [a id]sb]gc ohfhkhf , d]l]h□ kh]ēb
 46 ± 2 ohfhkhfu – ey nhghc qkl]lu [pbc□ b h□ 24 h 93 ohfhkhf – ey
 dhebqk]□ gmiehbguo delhd . Mq]blueb [pbb oh]fl]gh]h b ohfhkhf]h
 lbi□ . Ih]ēu h]f]qeb , gh □ qbkeh [pbc□ g□ dexqeb . Ih]heb gēba□
 arbnhgguo iill□ , h]d]gguo mlbgguf flhf□ . ≪ d]hc dhgpg]pbb
 gebabhēb g□fg□ 100 fl]a□ .

Bkkem]uc iill□ ([bkhe] ^R Mevl]nf) □ wdkibfg]□ ih bamqgbx]h
 fl]l]gghc d]l]bgk]b ghkbeb □ dmevl]m a□ 24 qk□ h hdhgqgby bgdm]pbb □
 dhgpg]pbyo 0,1; 0,01; 0,001; 0,0001 fē eklm]x]h sk]□ (fl]mēu) . ≪ k□ [h]qb□
 dhgpg]pbb]h]h]beb]v gi]kk]ggh i□ gk]gf□ b□ dmevl]m .

≪ d]qk]□ ihēh]blev]gh]h dh]l]hey □ wdkibfg]□ [a fl]hēbqkdhc
 d]lpbb bkihevaheb bl]f]pbg – K □ dhgpg]pbb 10 fd] /fē .

≪ d]qk]□ ihēh]blev]gh]h dh]l]hey □ wdkibfg]□ k]fl]hēbqkdhc d]lpbc□
 bkihevaheb P]dehnhkng □ dhgpg]pbb 20 fd] /fē . bdhkhfēvgmx d]l]bm]xsmx□
 k]kv ey w]h]h]bkkeh]gby]h]h]beb kh]ekgh k]dh]gpbyfb B.N. Ames [8].

K]l]bkl]bqkdmx h]h]ldm ih]heb kh]ekgh d]l]byf K]lvx]g□ b g□
 ikhgevghf dh]v]xl□ ih id]m ih]ff□ Microsoft Excel.

b h

wdkibfglō ih bamqgbx fmljgghc dlbghklb iill
 [bkhe R_{1/2} in vitro □ dmevlm□ ebfahpblh□ ibnbqkdhc dhh [a b k
 fl[hebqkdhc dlbpbē hpgbēb : qklhlm flna k [pbyfb , h[s□
 dhebqklh b lbiu [pbc . Ihemqggu□ amevllū iklēgu □l[ēbpō 1- 2.

l[ēbpō 1.

klhl□ b klēgb□ flna k [pbyfb ohfhkhf □ dmevlm□ ebfahpblh□
 ibnbqkdhc dhh ib ēklbb iill [bkhe R_{1/2} □ wdkibfgl□ [a
 fl[hebqkdhc dlbpbē .

Bkkemfh□ sklh	□			klhl□ flna k [pbyfb (□ ± m), %	lbiu [pbc		
	flna	flna [pbyfb	□ pbc		h.n	h□	i.n
<i>Контроли</i>							
□	200	2	2	1,0 ± 0,9	2		
bhfbpbg - K (ihēh blevguc dhglhev)	100	18	21	18,0 ± 3,8*	15	3	3
[bkhe R _{1/2}							
0,1 fē	200	6	7	3,0 ± 1,2	4	3	
0,01 fē	135	3	3	2,2 ± 1,3	3		
0,001 fē	200	5	5	2,5 ± 1,0	4		1
0,0001 fē	200	4	4	2,0 ± 0,9	3		1

Ibfqgby : * □ < 0,001

h.n -	Hbghqgu□ n]fglu (ohflbgu□ epbb)	i.n	igu□ n]fglu (ohfhkhfgu□ epbb)
h□	H[fgu		

Bkkehgb□ dlbghklb iill [bkhe R_{1/2} □ aēbqguō
 dhgpglpbyo ihdaēh , qlh gb □ hghc ba bkkemfuō dhgpglpbc iill g□
 bgmpbhē kllbklbqkdb hklhgh]h mēbqgby dhebqkl□ [pbc ih kggbx
 k mhgf dhglhevghc dmevlmū. Gh kem□ hflblv , qlh □ dhgpglpbb 0,01 fē
 g[axehkv kgb]gb□ fbhlbqkdhc dlbghklb ebfahpblh□ .
 [pbb ohfhkhf iklēgu hbghqgufb , igufb n]fglfb b
 h[fgfb . Kidl□ kfsq □ klhghm [pbc ohflbgh]h lbi□, qlh kh]ekgh
 ebllmguf gguf , fh□ [ulv h[tykgh ēklbf [glh□ obfbqkdhc ibhu
 [9-11].

Ib ēklbb g□ dmevlm□ ebfahpblh□ baklgh]h fmljg□ bhfbpbg□ -K,
 dhlhuc bkihevaheky □ dql□ ihēh|blevgh]h dhglhey , mklghegh hklhgh□
 ihurgb□ qklhlū [pbc ohfhkhf b kfsqb□ kidl□ [pbc ohfhkhf □
 klhghm h[ahgby [pbc ohflbgh]h lbi□, qlh iill dlbghklb
 ibfggby gghc lkl -kklfu ey bamqgby pblh]glbqkdhc dlbghklb obfbqkdbō
 fmljgh□ .

Ibevgy hpgd□ jglbqkdh]h bkd□ abkbl h□ ihēghlū aggby fl[hebafl□
 bkkemfh]h khbggby □ h]gbaf□ [bhlguo b qēhd□ b ēbyxsbo g□ wlhl ihpkk
 ndlhh□ , □ ldl□ h□ ihēghlū bamqgby]h jglbqkdh]h ihlgpbe□ . ;hevry qklv
 fmljgh□ gōhblky □ k□ □ b□ ihfmljgh□ . ey lh]h, qlh[u ih□ ēbygbf wlbo

hagbde□ fmlpby , gh[ohbf□ nfglguc□ ihpkk□ - bo□ fl[hebqkdy□
 dlppby□ [12]. mllg□ beb□ lh□ fl[heblu□ , hagbdrb□ □ amevll□ ekly□
 fbdhkhfguo□ nfglh□ deldb□ , ihgbdx□ □ delhqgh□ yh□ b□ uaux□ ibqgu□
 ihlgby□ GD . Dd□ lhevdh□ hagbdx□ ibqgu□ ihlgby□ GD , dexqkly□
 fogbafu□ □ ipbb□ , klfysbky□ mklgblv□ hagbdrbc□ ndl□ . < lō□ kemqyo□ dh]□
 ipbhggy□ kbklf□ [hl□ wndlbgh□ b□ [āhrb[hqgh□ , ibqguc□ ndl□
 klmldm□ GD□ mklgyly□ baklby□ . mlpby□ dd□ ldhy□ g□ hagbd□ [13].
 Ib□ lklbhgbb□ obfbqkdbo□ skl□ k□ gbaklghc□ fmljgghc□ dlbgklyx□
 gh[ohbfh□ ihhbly□ bkkehgy□ k□ fl[hebqkdhc□ dlppbc□ (ib□ gythf□ beb□
 gbaklghf□ fmljgghf□ eklyb□) [14] (lfe□ . 2).

L[ēp□ 2.

klhl□ flna□ k[pyfb□ ohfhkf□ □ dmevlm□ ebfhpbllh□ ibnbqkdhc□ dhh□
 ib□ eklyb□ ill□ [bke□ ^{R_{1/2}} □ wdkibgl□ k□ fl[hebqkdhc□
 dlppc□ .

Bkkemfh□ sklh□	□			klhl□ flna□ k[pyfb□ , (□ ± m), %	Lbiu□ [pbc□		
	flna□	flna□ k□ [pyfb□	□□ pbc□		h.n□	h[□	i.n□
<i>Контроли</i>							
□	200	2	2	1,0 ± 0,9	2		
Dhglhev□ S-9	200	3	3	1,5 ± 0,8	3		
Dhglhev□ Dh□ ndlhu□	200	3	3	1,5 ± 0,8	2		1
Pbdehnhkng□ (ihelblevguc□ dhglhev□)	100	16	18	16,0 ± 3,6*	14	1	3
[bke□ ^{R_{1/2}}							
0,1 fe□	200	5	6	2,5 ± 1,0	5		1
0,01 fe□	200	4	4	2,0 ± 0,9	3		1
0,001 fe□	200	4	4	2,0 ± 0,9	4		
0,0001 fe□	200	4	4	2,0 ± 0,9	3		1

Ibfqgby□ : * □ < 0,001

h.n□ -	Hbghqgu□ n]fglu□ (ohflbgu□ epbb□)	i.n□	igu□ n]fglu□ (ohfhkhfgu□ epbb□)
h[□	H[fgu□		

□ ebygby□ ill□ [bke□ ^{R_{1/2}} g□ bgmdpbx□ [pbc□
 ohfhkhf□ □ dmevlm□ ebfhpbllh□ ibnbqkdhc□ dhh□ in vitro□ k□ fl[hebqkdhc□
 dlppbc□ ihdaeh□ , qlh□ gb□ hghe□ ba□ bkkemfu□ dhgpglpbc□ ill□ g□ uauē□
 mebqgby□ dhebqkl□ [pbc□ ih□ kggbx□ kimhgf□ dhglhevgu□ dmevlm□
 [pbb□ ohfhkhf□ iklegu□ hbghqgufb□ bigufb□ n]fglfb□ .
 Ib□ eklyb□ g□ dmevlm□ ebfhpbllh□ baklgh]h□ fmljg□ Pbdehnhkng□ ,
 dhlhuc□ bkihevaheky□ □ dql□ ihelblevg]h□ dhglhey□ , mklghegh□ hklhgh□
 ihurgb□ qklhlu□ [pbc□ ohfhkhf□ b□ kfsqb□ kidl□ [pbc□ ohfhkhf□ □
 klhghm□ h[ahgy□ [pbc□ ohflbg]h□ lbi□ , qlh□ ihll□ dlghkly□
 ibfggy□ gghe□ lkl□ -kbklfu□ ey□ bamqgby□ pblh]glbqkdhc□ dlbgkly□ obfbqkdbo□
 fmljgh□ □ dkiibgl□ k□ fl[hebqkdhc□ dlppbc□ .

h[āhf] , препарат Эрбисол^RУльтрафарм не проявляет мутагенной активности в тесте на индукцию aberrаций хромосом в культуре лимфоцитов периферической крови человека *in vitro* без и с метаболической активацией.

Ud dđ iil [bke] ^RMevInf yeylky bffmghfhmeylhfh ,
 jilhihldlhfh , [ue] bamqg jh dlbghklv ib khfklghf dmevlbbhgbb
 iil [bke] ^RMevInf b fmljgh , dhlhu uklmieb □ dql□
 ihehlblevghjh dhglhey □ bkkehgyo fmljghc dlbghklb iil :
 blhfbpbg K b Pbdehnhkng □ lkl g bgmdpbx [pbc] ohfhkhf □ dmevlm□
 ebfnhpblh ibnbqkdhc dhh qehd□ vitro.

□kl□ k [bke] ^RMevInf , □duc nedhg [ue] h[eg] blhfbpbg K □
 dhgpglppb 10 fd]/fe □ wdkibfgl [a flhehqkdhc dlpbb (L[e] . 3) b
 Pbdehnhkng □ dhgpglppb 20 fd]/fe □ dkibfgl k flhehqkdhc dlpbc
 (L[e] . 4).

L[ebp] 3.

klhl [pbc] ohfhkhf ib eklbb iil [bke] ^RMevInf
 khfklgh k blhfbpbghf K g dmevlmm ebfnhpblh ibnbqkdhc dhh [a
 flhehqkdhc dlpbb .

Bkkemfh□ sklh	Dhebqklh		Kgyy qklh□ flna k [pbyfb] , (% ± m)
	ihgebahgguo flna	flna k [pbyfb]	
Контроли			
□	200	2	1,0 ± 0,9
blhfbpbg K ("qbkly dmevlm□")	100	18	18,0 ± 3,8
[bke] ^RMVZ + E			
0,1 fe	100	16	16,0 ± 3,6
0,01 fe	100	17	17,0 ± 3,7
0,001 fe	100	17	17,0 ± 3,7
0,0001 fe	100	16	16,0 ± 3,6

□ dlbghklb iil [bke] ^RMevInf □ aebqguo
 dhgpglpbyo khfklgh k blhfbpbghf K ihdaeh , qlh gb □ hghe ba bkkemfuo
 dhgpglppc iil g bgmpbhe kllbklbqkdb hklhghjh mfgrgby
 dhebqkl□ [pbc] ih kggbx k "qbklhc dmevlmhc" – blhfbpbghf K.

dkibfgl ih khfklghfm dmevlbbhgbb iil [bke] ^RMevInf b
 Pbdehnhkng [ue] ihg □ mo ihlhgyklyo ba-a□ kgblyby fbhlbqkdhc
 dlbghklb ebfnhpblh (L[e] . 4).

klhl [pbc] ohfhkhf ib eklibb iill [bkhe] ^RMevlnf
 khfklgh kPbdehnhknghf g dmevlmm ebfnhpblh ibnbqkdhc dnb k
 fl[hebqkdhc] dlbpbc

Bkkemfh sklh	Dhebqklh		Kgyy qklhl	
	ihgebabhg guo flna	- flna k [pbyfb]	flna k [pbyfb] , (% ± m)	
Контроли				
□	200	2	1,0 ± 0,9	
Dhglhev S-9	200	3	1,5 ± 0,8	
Dhglhev Dh-ndlhū	200	3	1,5 ± 0,8	
Pbdehnhkngh ("qbklv dmevlm")	100	16	16,0 ± 3,6*	
[bkhe] ^R MY + BhZ				
0,1 fe	1 wdkibfgl	75	2	2,6 ± 1,8**
	2 wdkibfgl	50	1	2,0 ± 1,9**
0,01 fe	1 wdkibfgl	55	1	1,8 ± 1,8**
	2 wdkibfgl	75	2	2,6 ± 1,8**

* <0,001 ih kggbx k dhglheyfb S-9 b Dh-ndlhfb

** <0,001 ih kggbx kihehlblevguf dhglhef pbdehnhknghf .

<h ko dhgpglpbyo □ mo ihlho wdkibfgl g[exlky] kgb[gb] fblhlbqkdhc dlbgklib ebfnhpblh . < mo ukrbo dhgpglpbyo (0,1 b 0,01 fe) g[exlky] kgb[gb] qklhlu [pbc] ohfhkhf ib khfklghf dmevlbbhgbb k Pbdehnhknghf ih kggbx k "qbklhc dmevlmhc" Pbdehnhknghf . < hklavguo [he] gbadbo dhgpglpbyo (0,001 b 0,0001 fe) flna , ib]hguo ey geba gclb g mehkvl .

<hafh]gh , akv b]□ hev fl[hebqkdy dlbpby . Lh klv , iill [bkhe] ^R**MY** fh]□ hlgkblvky, kh]ekgh dekkbnbdpbb ≡≡ Ihrgdh , □ hkgb dhlhhe eib bakly fbnbdpby L. Kada, d fl[hebqkdbf g]bml]gf .

< wdkibfgl k fl[hebqkdhc] dlbpbc acklhgu pblhohfu J=450. Baklgh , qlh dlbgklib kklfu pblhohfh J=450 gonbiky □ gllhgklibqkdbo abfhlhghrgbyo k mhgf bffmgghe asblu h]gbaf . □ keb wlh ld , lh ihurgby mhgy bffmgguo kbe h]gbaf he]gh lflbqkdb kgb]lv dlbgklib nfglh , mqklmsbo □ fl[hebqkdhc] dlbpbb fml]gh , b, kehlaygh , uklmilv dd g]bml]gguc ndlh ih hlgrrgbx d fml]gf , ey dhlhuo ldy dlbpby gh]ohbf . lh dklky pblhohfh J=450, lh □ h]gbaf [hlx] fogbafu h]lghe kyab , kgb]xsb mhgy wlbo nfglh ib qafghf ihklmiegbb ba hdm]xsc ku dkgh]bhlbdh , h]amxso lhdkbqgu fl[heblu . Ba]ulhd ldbo fl[heblh h]bplevgh hacklm g] [ed] h]gbaf , □ hf qbke □ b g] pblhohfu J=450, kgb]y bo dlbgklib . ;amkehgh , wlh fogbaf [hl] b ih hlgrrgbx d fml]gf , uklmiy hgf ba khkleyxso g]bml]gghe kklfu h]gbaf [14]. Lh klv , g] bkdexqgh , qlh iill [bkhe] ^RMevlnf bg]b]bm dlbgklib pblhohf J=450, ihury lf kfuf bffmgbl h]gbaf .

Bkoho ba urkdaggh]h , [ueh ihgh bamqgb ekly iill [bkhe] ^R**MY** □ dhgpglpbb 0,1 f]/fe g dmevlmm ebfnhpblh ibnbqkdhc dnb [hevguo nb]hbfhb . < wdkibfgl , dhlhuo [ueb ihklegu □ mo fbnbdpbyo - [a b k fl[hebqkdhc] dlbpbc , hpgbeb qklhm flna k [pbyfb] b dhebqklh gmiehgguo delhd .

mkehb□ ghfēvghc □ bagylevghklb □ khflbqkdhc □ deldb □ -
 khoggb□ biehbghjh □ ohfhkhfghjh □ g[h□ . lhl □ ihpkk □ h[kiqblky
 kipbevghc □]glbqkdhc □ ih]ffhc □ , glēgghc □ g□ imitgb□
 ilfghjh □ kohlgby □ ohfhkhf □ - msmx □ ibqbgm □ h[ahgby
 gmiehbghjh □ dbhlbi□ deldb □ [15], ld □ dd □ mhgv □ gmiehbhb □ hl□□ khklhygb□
 delhqghjh □]hfhkla□ b fh□□ [ulv □ bkihevahg □ ey □ hpgdb □ aguo □ hafh]ghklē
 h]gbaf□ [16].

G□ k]hgryg□ fy □ uyeg□ iheh]blevgy □ dheypbhggy □ kyav □ fīm
 h[sbf □ dhebqklhf □]glguo □ (fīna □ k □ gmrgbyfb □ □ ohfhkhfō □) b
 gmiehbguo □ delhd □ (mēbqgb□ qbke□ ohfhkhf □ □ deld□ g□ hlt□ □ b□ lhgghfm □ qbkm
 □]iābhghf □ g[h□ n, gibf□ : 2n+3, 2n+4) dhebqklhf □ b □ odlhf □ dehgh□
 ghfēvguo □ delhd □ □ ebfnhpblō □ ibnbqkdhc □ dhh □ b □ lbihf □ b □ klbc □ himohehh]h
 ihpkk□ m [hevguo □ dhf □ fhehqghc □ eāu □ b □ emhqqh □ -dbrqgh]h □ ld□□ [17,18].
 Ldbf □ h[ahf □ , mēbqggh□ dhebqklh □ gmiehbguo □ delhd □ fh□□ kbēvklhtv □ h □
 hagbdghgbb □ bafggbc □ □]ghf□ qēhd□ (gkl]bevghklv □]ghf□) - b, ld□□ , fh□□
 [ulv □ hihegblevguf □ dblbf □ hafh]ghklb □ b]ghklbhgby □ himoheh]h □ ihpkk□ □
 h]gbaf□ .

Ihemqgguo □ amevllu □ iklegu □ □]ēbp□ 5- 6.

□]ēbp□ 5.

hbndpby □ iilhf □ [bkhe □ ^RMevlnf □ dmevlm □ ebfnhpblh□
 ibnbqkdhc □ dhh □ [hevguo □ nb[hfbhffb □ [a □ fl]hebqkdhc □ dlbpbb □ .

□	Dhglhev				^R MVZ			
	Z nZ	Delhd k □ pbyfb	klhl□		<k]h		klhl□	
			fīna □ k □ pbyfb (% ± m)	gmieh bguo delhd %	fīna □ pbyfb	Delhd k □ pbyfb	fīna □ k □ pbyfb (% ± m)	gmieh bguo delhd %
1	180	7	3,8 ± 1,4	20,0	160	5	3,1 ± 1,3	16,3
2	120	4	3,3 ± 1,6	14,5	75	2	2,6 ± 1,8	16,0
3	135	6	4,4 ± 1,7	18,5				
4	180	5	2,7 ± 1,2	14,5				
5	135	3	2,2 ± 1,2	12,5	200	7	3,5 ± 1,3	19,0
6	200	7	3,5 ± 1,3	20,5	200	6	3,0 ± 1,2	15,5
7	200	5	2,5 ± 1,1	13,5	100	3	3,0 ± 1,7	13,0
8	170	5	2,9 ± 1,2	14,1	125	3	2,4 ± 1,4	14,7
9	200	7	3,5 ± 1,3	17,0	150	5	3,3 ± 1,4	16,5
10	200	7	3,5 ± 1,3	15,0	200	6	3,0 ± 1,2	16,0
11	200	6	3,0 ± 1,2	16,5	100	4	4,0 ± 1,9	15,5
12	160	5	3,1 ± 1,3	12,5				
13	200	6	3,0 ± 1,2	16,5	200	7	3,5 ± 1,3	17,0
14	200	6	3,0 ± 1,2	21,0	200	6	3,0 ± 1,2	15,5
15	200	6	3,0 ± 1,2	16,0				
Σ	2680	85	3,2 ± 0,3	16,2	1710	54	3,1 ± 0,4	15,9

Ib □ ekllb □ iilhf □ [bkhe □ ^RMevlnf □ g□ dmevlm □ ebfnhpblh□
 ibnbqkdhc □ dhh □ , ihemqgguo □ m [hevguo □ nb[hfbhffb □ [a □ fl]hebqkdhc □
 dlbpbb □ g□ hltqehkv □ klbklbqkdb □ hklhghjh □ kgb]gby □ qklhlu □]pbc □
 ohfhkhf □ b □ mhgy □ gmiehbguo □ delhd □ . G[āxēhkv □ kgb]gb □ fb]hlbqkdh]h □ bgdk□
 □ y□ dmevlm □ dh]hu □ [ueb □ fhbnbpbhgu □ iilhf □ [bkhe □ ^RMevlnf □ .

hbndpby illhf [bkhe^RMevlnf] dmevlm ebfhpbli
 ibnbqkdhc dhh [hevguo nb[hfbhffb] k fl[hebqkdhc] dlbpbc

□	Dhglhev				W ^R MEZ			
	k		klhl		<kjh		klhl	
	Z nZ	Delhd k [pbyfb pbyfb]	fina k [pbyfb (% ± m)	gmieh bguo delhd %	fina na	Delhd k [pbyfb pbyfb]	fina k [pbyfb (% ± m)	gmieh bguo delhd %
1	180	7	3,8 ± 1,4	20,0	200	5	2,5 ± 1,1	14,0
2	120	4	3,3 ± 1,6	14,5	130	2	1,5 ± 1,1	14,0
3	135	6	4,4 ± 1,7	18,5	140	2	1,4 ± 0,9	16,4
4	180	5	2,7 ± 1,2	14,5	85	1	1,2 ± 1,1	15,2
5	135	3	2,2 ± 1,2	12,5	75	1	1,3 ± 1,3	12,5
6	200	7	3,5 ± 1,3	20,5	90	1	1,1 ± 1,0	11,1
7	200	5	2,5 ± 1,1	13,5	180	3	1,6 ± 0,9	11,0
8	170	5	2,9 ± 1,2	14,1	120	2	1,6 ± 1,1	13,2
9	200	7	3,5 ± 1,3	17,0	155	4	2,5 ± 1,2	12,5
10	200	7	3,5 ± 1,3	15,0	130	3	2,3 ± 1,3	10,9
11	200	6	3,0 ± 1,2	16,5	160	4	2,5 ± 1,2	11,3
12	160	5	3,1 ± 1,3	12,5	200	3	1,5 ± 0,8	9,5
13	200	6	3,0 ± 1,2	16,5	140	2	1,4 ± 0,9	12,1
14	200	6	3,0 ± 1,2	21,0	200	4	2,0 ± 0,9	15,3
15	200	6	3,0 ± 1,2	16,0	150	2	1,3 ± 0,9	12,0
Σ	2680	85	3,2 ± 0,3	16,2	2155	39	1,7 ± 0,2*	12,7*

* □ < 0,001

Ib eklibb illhf [bkhe^RMevlnf] g dmevlmm ebfhpbli
 ibnbqkdhc dhh , ihemqgguo m [hevguo nb[hfbhffb] □ dkibfgl k
 fl[hebqkdhc] dlbpbc mklghegh klbklbqkdb hklhgh kgbgb qklhtu
 [pbc] ohfhkhf b mhy gmiehbguo delhd , qlh □ hqghc a ihlll
 kihkh[ghktv] illhf [bkhe^RMevlnf] imillv hagbdghgb bafggbc □
]ghf qehd b h[kiqblv]]h kl[bevghktv] .

1. Σ [bkhe] ^RMeVnf g ihyeyl fmljgghc dlbghklb □ lkl □ g □ bgmdpbx [pbc] ohfhkhf □ dmevlm □ ebfahpblh □ ibnbqkdhc dhh qehd □ in vitro [a] b k fl[hebqkdhc] dlbpbc
2. Σ dlbghklb iill [bkhe] ^RMeVnf ib khfkighf dmevlbbhgbb k sklfb , dhlu ukmieb □ dql □ ihehblevgh]h dhglhey □ bkkehgyo fmljgghc dlbghklb iill : blhfbpbg □ K b Pdehnhkng □ □ lkl □ g □ bgmdpbx [pbc] ohfhkhf □ dmevlm □ ebfahpblh □ ibnbqkdhc dhh qehd □ vitro ihdaeh , qlh:
 - g □ hghc ba bkkemfu □ dhgpglbc ib khfkighf dmevlbbhgbb iill b blhfbpbg □ K, g □ g[exehkv] kllbklbqkdb hklhgh]h mfgrgby dhebqkl □ [pbc] ih kggbx k “qbkthc dmevlmhc” – blhfbpbg]h K.
 - b bgdm[pbb iill [bkhe] ^RMeVnf khfkigh k Pdehnhkng]h mklghgh kgb'gb □ qklhu [pbc] ohfhkhf ih kggbx kcklbf “qbkthc dmevlmhc” – Pdehnhkng]h .
3. < dmevlm □ ebfahpblh □ ibnbqkdhc dhh [hevguo nb[hfbhffb] , bgdm[bhgguo] in vitro k fl[hebqkdhc] dlbpbc khfkigh k iill [bkhe] ^RMeVnf , g[exlky] kllbklbqkdb hklhgh □ kgb'gb □ qklhu [pbc] ohfhkhf b dhebqkl □ gmiehbguo delhd , qlh fh □ kblevklhv h kihkh[ghklb iill [bkhe] ^RMeVnf imi □ hagbdghgb □ bafggbc □]ghf □ qehd □ b h[kiqblv]h kl[bevghklv] .
4. Σ [bkhe] ^RMeVnf yeylky fl[hebqkdb] glbfml]ghf , ld dd glbfml]gguc wnd □ iill g[exlky] lhevdh wdkibfglo k fl[hebqkdhc] dlbpbc : kgb'gb □ qklhu [pbc] ohfhkhf ih kggbx k cklbf “qbkthc dmevlm” – Pdehnhkng □ ; hklhgh □ kgb'gb □ qklhu [pbc] ohfhkhf b dhebqkl □ gmiehbguo delhd ib h[agb □ iill □ dmevlm □ ebfahpblh □ ibnbqkdhc dhh [hevguo nb[hfbhffb] .

iill [khe] ^RMeVnf □ fl[heqgbf] glbfml]ghf , hkdevdb glbfml]ggbc nd □ ch]h kihkl]vky levdb □ dklbfglo a fl[heqghx] dlbpk : agb'ggy qklhb [pbc] ohfhkhf ihgygh a □ “qbkthc dmevlm” – Pdehnhkngm ; hklhgh □ agb'ggy qklhb [pbc] ohfhkhf l □ devdhkl □ gmiehbgo delhg ib hgg □ iill h dmevlm □ ebfahpbl □ ibnbqgh □ dh □ ohbo □ g □ n[hfbhfb] in vitro.

The preparation Erbisol^RUltrafarm is metabolic antimutagene. The effect of antimutagene observe in the experiment with metabolic activity: decrease of chromosomes aberrations` frequency in action Cyclofosfane; the statistically authentic decrease of chromosomes aberrations` frequency and cells aneuploidy`s of the peripheral blood patients with fibroid by add preparation in vitro.

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(**л**нагхл) **г**еба□ **п**б□ **о**лфкхф□ □ **д**меvл□ **е**бфнпбл□ **и**бнбққдх□
длб□ **қ**еһд□) in vitro **к** **л**л[ебққдх□ **д**лбпб□ //Клпл **и** **л**гм
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