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分子诊断与治疗杂志

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分子诊断与治疗杂志

2019 9 11 5

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Bimonthly Volume 11 Number 5 September 2019

COMMENTS

Clinical application and significance of high sensitivity hepatitis B virus DNA detection
WANG Jie YU Guangxin LU Fengmin Ṇ 343

ORIGINAL ARTICLES

Establishment and evaluation of a hypersensitivity method of real time fluorescent PCR for hepatitis B virus detection
XIA Qiao LIAO Lili DONG Zhiqiang YANG Honghui JIANG Xiwen Ṇ 348

The application value of high sensitivity HBV nucleic acid test in preoperative screening
LI Baoqi CHEN Peisong HUANG Hao YU Xuegao HUANG Bin Ṇ 355

Comparative study of high sensitivity and conventional fluorescence quantitative PCR in the monitoring of antiviral efficacy in patients with chronic hepatitis B
LU Jianhua YANG Li ZHAO Zhaoxia LI Qianlin LI Minran LIU Yuzhen DAI Erhei CHEN Xiuli Ṇ Ṇ Ṇ Ṇ Ṇ Ṇ Ṇ Ṇ 361

Clinical value of high sensitive HBV DNA detection in hepatitis B related hepatocellular carcinoma
ZHOU Ying ZHANG Junxia HUANG Shu LIU Liming GUO Wei Ṇ 365

Application of dual target hyper sensitivity hepatitis B DNA detection technology in clinical diagnosis of HBeAg negative patients
FENG Lei Ṇ 369

Clinical comparative study of two quantitative methods for HBV DNA detection
WANG Shuang GUO Jie WANG Dagang SHI Jingren PAN Meichen YIN Shangqi HE Chaonan MENG Huan ZHANG Xiang WANG Yajie Ṇ 374

The clinical application of high sensitivity HCV RNA detection for diagnosis and treatment in patients with chronic hepatitis C
HUANG Chengjun CHENG Shuquan Ṇ 379

Clinical comparative study of two methods for quantitative detection of HCV RNA
PENG Yabai PENG Yalan GUAN Jipeng WANG Min Ṇ 383

Clinical characteristics of chronic hepatitis B patients with both HBeAg and HBeAb positive
LUO Lin ZHANG Tingchao LIU Shugang Ṇ 387

Bimonthly Volume 11 Number 5 September 2019

Clinical significance of cystatin C and hepatic artery resistance index in patients with liver cirrhosis

SHAO Xiaomei YANG Yang HAN Lixia Ṇ Ṇ Ṇ

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2. ȣ/ . ȣ3 ȣ2,3 IS-kJ ~ ὖ ᾷ ˘

Ȯ Mrǧggn Qǧgkogb_l Fǧt ´

Θ Ȯ ǎ Ḥ

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ʔ ί ɔ F@T ᵉ / Â/ .⁷ IS-

kJ w ɔ ƒ Ḥ ẹ ɟ

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2. IS-kJ ᵉ ẹ Ȧ

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Ặ r² ”.,78 ̃Ω´ ɟ

/,2,8 Ỉ ʅ

ί ɔ ᵉ ´ / Â/ .⁸ IS-kJ

w ɔ ₱~ ̈Ạ ل ɨ Fa/ / Â/ .⁸ IS-

kJ ˆ Ma/ / Â/ .³ IS-kJ ˆ Ja/ ƒ

F@T ̃A ɨ ᾷ 2.. IS-kJ Y ل ɨ

2. ᵉ ل

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ί ɔ ₫ᵐ oy ᵉ ´ / Â/ .⁸

IS-kJ w ɔ ₱~ ̈Ạ ل ɨ Fa2 / Â

/ .⁸ IS-kJ ˆ Ma2 / Â/ .³ IS-kJ ˆ Ja2 ƒ

F@T ̃A ɨ ᾷ 2.. IS-kJ Y

ل ɨ 3 ȣ Y ل ɨ ˘

2 ᵉ ل CT ̄

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ƒ Ψ ہ ۱ ۱

ϕ ىں ہ ל ۱ ڎ

2. ɷ1. ɷ5 ɷ2.5 G S - kŨJ ڏ ˘ Ȯ

1 ɟ Mpɣeɣl Qɣe k mɣb_j Dɣr

´ Θ Ȯ ǎ Ḥ

ҥ Ȯ ھ 2 ɟ Ḥ

ε 1. G S - ɟk J

2.4 ҥ

ƒ FBT ہ ל ۱ Ψ

ל ۱ ڎ 2. G S - k J 2. Y

e ۷ 1.3§..5 J mę G S - k ط Ĭ

ج e ε 15.41 G S - k J Ḥ ҥ

ε 2. G S - k Jھ 3 ɟ

2.5 م

 า í ɔ FBT e 1 Â1.[9] G S -

k J w ɔ ƒ Ḥ ę ˜ ƒ

ę 1. ʁ ڎ 1 Â1.[9] ɷ1 Â1.[8] ɷ1 Â

1.[7] ɷ1 Â1.[6] ɷ1 Â1.[5] ɷ1 Â1.[4] ɷ1 Â1.[3] ɷ1 Â1.[2] ɷ2. G S - k J

e Ũ ڏ ε 8.817ɷ7.874ɷ6.977ɷ

5.812ɷ4.973ɷ3.881ɷ2.597ɷ2.11. ɷ1.424 J mę G S -

k Jɟ e ę Ά e Ą

r[2] ;.,772 Ḥ ’ م ε

2. | / Â/ .[7] IS-kJ ھ 2 ɟ

2.6 Ỉ Ấ

ɕ Y Ỉ ᑊ ᑊ Fa1 Ka1 Ja1 ˘

2. Y ᵉ CT ᵉ Ỹ ᾷ ε

..88 # 2.53 # ۱ 3.86 # ۵ 5 ۶ ۶ 6 ۶ ۵ 7 ɟ Ỉ

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1.. ᑊ ᑊ ᑊ ᑊ

3 Y ᑊ ᑊ Fa2 Ka2 Ja2

5 3 Y ᑊ ᑊ ˘ 4 Y

Y ᑊ ᑊ ᵉ CT ᵉ Ỹ ᾷ ε

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7 ३ / 5 , 1 # F@q ? e ŏ ε 3 G <3 . . G S - kɷG G / . . . ɟ 3G S - kɷG G G
3 . . ɟ /G S - kɷG T / . . | G S -. kɷ JT . , . 3 G S - kɷ F@T B L ? G G G G G T
τ P<.,.3 ɟ 7. ३ F@sAg Ψ /3 ३ F@T BLA ɳ Нь PCP
ɳ ▌ /2,2 # ɟ F@T BLA 57 ३ /3,2 # ę Ψ 2 ३ F@sAg ε
CMIA ε 2,3 # ɟ /3 ३ m Poafe ã ~ /3 ३
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F@sAg F@T BLA Нь ɳ ɟ Ā Ā PCP F@T BLA
в в e PPT ɩ e LPT ج ε / . . , . # CMIA F@sAg в
PPT LPT ŏ ǫ ε 75,3 # 75, . # 83,4 # 77,3 # PCP F@T ɩ PPT Нь CMIA
P<.,.3 ɟ ẓ PCP F@T BLA ' Нь ۏ Ϭ Нь ۏ ƒ CMIA
Ā ɑ I Ĭ F@T Ā Ŷ ɩ K ẇ ה ┼ ├ K ɟ
ψ ẓ PCP F@T BLA ɔ ה ẓ ẍ ŏ ۏ

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BLA<43 IS-kJ 2 F@eAg

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/ Uorlb Fe_ltf Mrg_ngx_tgon, Esgbelgnes dor tfe prevenŲ tgon a_re _nb tre_tkent od persons ugtf afronga fep_tgŲ tgs @ gndeatgon, Uorlb Fe_ltf Mrg_ngx_tgon 2./3,

2 Rerr_slt LA Jo i AQF MaM_fon @H et _l, Spb_te on preventgon bg_gnosgs _nb tre_tkent od afronga fep_tgtgs @ AAQJB 2./8 fep_tgtgs @ gsgb_nae H , Fep_tologw 2./8 45 2 /34. Ų/377,

3 Csrope_n Assoag_tgon For Rfe Qtsbw Md Rfe Jgver, CA Ų QJ 2./5 Clgnga_l Pr_atgae Esgbelgnes on tfe k_n_geŲ kent od fep_tgtgs @ vgrss gndeatgon H , Hosrn_l od fep_Ų tologw 2./5 45 2 35. Ų378,

2 Q_rgn Q I I sk_r M J_s E I et _l, Asg_n Ų P_agdga algnga_l pr_atgae gsgbelgnes on tfe k_n_gekent od fep_Ų

6 Q M P H Z UÀ+

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2,2 ' Ά F@T BLA

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1.⁸ G S - ⫪ J 287 ϩ ẹ Ψ <1.7Â1.⁸ G S - k J

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r ;.,78 P<.,../ , Rfe bgdderenae _n_lwsgs sfoueb tf_t tfe ke_n bgdderenae `etueen tfe o s_ntgt_tgve v_lses od gkporteb _nb bokestga re_gent re_gents u_s +,33 log/. IS-kJ _nb tfe 73# aondgbenae gnterv_l u_s +.,7/ 4|.,23 log/. IS-kJ, 74# /.7-//2 od tfe s_kple v_lses uere ugtfgn tfe 73# aondgbenae gnterv_l, Conalssgon Bokestga re_gent f_s _ fggf aorrel_tgon _nb aonsgstenaw ugtf tfe gkporteb re_gent,

I CW UMPBQ Fep_tgtgs C vgr_l lo_b aorrel_tgon aonsgstenaw

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PLA Пm س ţ ї ►

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ہ У ۱ i Ḥ ۷ Ҥ ; 114

ʒ ۷ FCT ŨŨ ۹ ε 2.38Â

1.⁴ | 5.6Â1.⁶ G S - k J5.47Â1.⁶ | 1.39Â1.⁷ G S - k J

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</ . . . IS-kJ ۱ >/ . . . IS-kJ

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τ P<.,.3 ţ N 43,7 # Ţ F@eg . | /,. CMI ˆ /2,3 # . | .,/ CMI A e

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Ã N нЬ Z ð ж 0 . / 5 X A1X7B MWD

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R_`le 2 Jgver dsnatgon gnbe v _nb AFP _`nor k_lgtw r_te n #

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אִ	/22	27 2.,2	33 28,5	24 2/,3	3. 22,4	2/ 33,4	33 25,.	33 23,2	37 32,.
c Ɑ	/53	2/ 23,5	27 28,3	28 /4,2	27 28,3	27 28,3	24 24,4	32 3/,2	3. /5,3
c I	2.3	35 /8,.	42 33,8	25 /3,4	4/ 27,8	48 33,2	45 32,5	35 25,8	32 /4,4
c²		2.,/23	.,/88	3,532	/,.24	/,32.	2,.24	8,585	/2,58/
P ᵉ		<.,.3	>.,.3	>.,.3	>.,.3	>.,.3	>.,.3	<.,.3	<.,.3

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F@T BLA ς אִ

ŭ Ψ ҥ ӝ щ ŭ Ạ Ҡ

Ξ Ď ה ŭ ŭ̃ц ض ҭ Ạ ה Ấ Ỹ ŭ̃ אִ ŭ̃ ŭ אִ ŭ̃ ضڈ

A

/ρ / 0

ث ɵ A A w q A ۱ Ὢ F ? P ɡ ɵ ɔ
ɔ í τ ɟ ॅ ⊿ 0 . / 4/ 0 0 . / 67 ɔ ۱ 4 ⅓ ɔ Ə ε
~ 1 Ḥ ۱ ǫ̇ L ɾ ж ɟ ɾ ж ۱ ɔ
ɵ ⁞ ۱ Ỉ ɟ ɲ Ά A ۰ ɔ Ψ
╗ P ;.,.34 Ά .,43 §.,.3 FAPI ج e ھ .,53 §.,. / P<.,. . / ɟ
FAPI ۱ C φ ۰ Ᾰ r$;.,33/ P<.,. . / ɟ PMC ; FAPI Ҥ CwsC ɟ
CfɡlbỤPsgf̃ Ά C Ḕ Ᾰ P ;.,.35 ɟ Ὢ m Y C
ᾷ ɔ ɵ ۰ ɔ C Ὢ ɵ ɟ
ψ C Ὢ ɔ ɔ

P ;.,.34 , Cokp_reb ugtf tfe aontrol grosp .,43 §.,.3 tfe ke_n v_lse od FAPI gn tfe stsbw grosp sggngdga_ntlw gnare_seb .,53 §.,. / P<.,. . / , Rfere u_s _ sggngdga_nt aorrel_tgon `etueen FAPI _nb Cwst_tgn C r$;.,33/ P<.,. . / , Rfe _re_ od FAPI gnbe v snber tfe PMC asrve u_s ksaf fggfer tf_n tf_t od Cwst_tgn C, Rfe CfglbỤPsgf st_ggng pf_se u_s aorrel_teb ugtf awst_tgn C levels P ;.,.35 , Conalssgon Rfe fep_tga _rterw resgst_nae gnbe v FAPI gs _ kore _aasr_te p_r_keter dor p_tgents ugtf lgver dg`rosgs tf_n Cwst_tgn C _nb Cwst_tgn C gs _ `etter gnbga_tor od agrrfosgs,

I CW UMPBQ Cwst_tgn C Fep_tga _rterw resgst_nae gnbe v Cgrrfosgs Fep_tga dg`rosgs

---

ᾷ] ط] ۱ 7 J Q . / . / . 6
ω ۔ v / ,] ' ۔ ώ , ≠ ۔ ، ما ' ۱] ضي / / . . 1 0
0 ώ ۔ ώ , ≠ ۔ ما] ώ / / 4 . 2 2
ρ I ω ℓ ش C ɡ k _/ ɡ6 j/ . 0 2 3/ 64 .1 5, 6a ⊳m k

ظط ẅ Ὼ ՝
ɩ ̲ ɔ в
в G Ɑ ɩ Ἡ в
Ἀ Ἡ в ɩ вư ɔ ɩ Ἡ в ɩ
ɗ J Ự ɩ J Ự ɟ
՝ Ш ├ Ԩ ɩ Ж Ҭ
ɟ
1.2 Ѧ ʔ ɩ Ἡ
ϕ ى ɔ ɗ Ԧ
FBqAe вFBcAe FBc ɩ FBaGeE ՛
ϰ ϕ ى NCP FBT
BLA ɟ Γ ى ɔ FCT ɩ
ئو ՝ ϰ Γ ى
NCP FCT PLA ╗
Ἡ Ԧ Ψ ɗ غ oy
ǎ ˘ ɟ NCL GA ظط ẍ
Ԧ CwqC QGCKCLQ ه
K_p`spe ئو ẇ BL G G B_bcBcf
pglе ɔ ɟ ⁞ ε Z
⁞ ϰ ő . ɟ Ԧ Mjwknsq
cvcp_ G G CCTQO16 η ى ɟ
1. í
1. . ɔ
ئو Ψ w5. . p - kgl
˝2e ئو Õ ˜ ɿ ئو ⁺8. Ÿ
ظط ; ɟ CwqC e ε ...
1 ⁞
1.1 ئو 2.16 12 2.18 9 1.2 .
ɩ 63˜ ɔ Θ ε ẹ ƒ в ع
Ψ ɔ 41 ʒ ▌ 65.1 # ɔ ɩ 22 ɔ ɭ ɩ ئو
ʒ ▌ 34.9 # Γ ى ɔ 13 ʒ ϕ ى ⁞ Ὼ
ɔ 9 ʒ ɟ ⁺ 3.˜ ɩ ɩ ɟ ՝ m ж ɟ
ą̈ ˪ ɔ ɟ Ấ Ã ˜ Ỹ ; ж Ԧ
ɩ ɟ ⁞Ὼ م ε Ԧ ε
e ƆĔ̆ w ⁞ e Ύ ئو
Ỹ ; Ὼ ԩ Ԧ .. Ỉ ɟ Cfgjb Ự ɟ
Nsef Õ 5 ' ‴ ã Õ ε 3 Y A 1. . ɔ Ỉ
36.5 # B 33.3 # ɩ C 3..2 # Õ A ⁻6 B7 Ự w ♥ l ɩ
C ”1. ɟ Ucqr F_tcl Õ Ã 6 Ԧ ئو ɩ
Ţ O ى kmbcj ♥ ɟ
dmp clb Ự qr_ec jgtcp bgqc_dqcC J B Õ 7 Σ Ԧ ئو ƒ
Ţ ɔ ɟ ẹ Õ ε η œ ɟ
Ã ˜ ئو Ὸ 1. Õ
՛ w ẇ ẽ ă ɿ Ỉ ƒ QNQQ2. . Θ Õ

n # w x±s

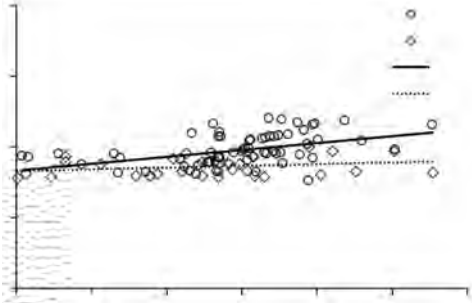
ɨ ƒ t M_nn Ự U fgtnew S

ʔ Ỷ Ҥ ŭ ʎ ▌

ƒ Qpe_rk_n Ặ ŭ Ặ ɨ ɔ

ə reaegverope đ ɒ ʏ ǯ ɔ ʞ ɒ ᴰ ɣ ɔ ȳ ъ ᵃ

r ɔ ʀ



vs FAPI ̀Ω

1.4

QNQQ21.. ũ

x ± s t

c⁷

x̄±s S - J

R_`jc 3 Amkn_pgsmn md jg t cp dsnatgmn `ctuccn tfc 0 epmsns x̄±s S - J

	AJR		AQR		EER	
	ف	~ 2 ٧	ف	~ 2 ٧	ف	~ 2 ٧
	83,32 §33,82	22,.3 §24,33-	/22,22 §4/,23	32,.3 §2.,33-	/83,8/ §/ /8,7/	/ .2,.3 §2.,23-
	8/,33 §33,23	43,2/ §3.,2.	/22,28 §38,73	53,2/ §3.,.2	/85,55 §/22,38	/ / .,/2 §73,.2
t e	/,.43	2,327	/,.28	5,.2/	.,/ /4	4,/25

-P<.,.3 ↓

3

k g Ɛ1 Ɣ 6 0

/ρ 0 1

ث P L ?1Ɣ/ 6k0g Ɛ1 Ɣ 6ϡ0 ĕ H ۱ Ψ Ə ϣ
Ąِ ɟ ِ ه N A Ɛ A U c q r c p l ` j m r ϣ Ψ k g Ɛ1 Ɣ 6 FAM83A
kgPȚ3/82 kgkgas Ą sgȚ FAM83A ŭ ą̈ Ą̈ MFCC75F ẋ
kgPȚ3/82 Ą FAM83A ĭ ĕ H Uestern `lot
@alȚ2 ɞ@_v ɲ kgPȚ3/82 ; אِ غ نح w ۱ نح غ ɞUestern
`lot m ɟ بم kgPȚ3/82 ϡ Ψ ; FAM83A ɔ kgPȚ3/82
Ąِ FAM83A ~ ۰۰۰ @alȚ2 ; @_v ɔ kgPȚ3/82 ' ~ ´
FAM83A ' FAM83A FAM83A kgPȚ3/82 ĕ H ϣ
Ə ɟ kgPȚ3/82 ' ~ FAM83A ˍ ĕ H ɞ Ąِ
ę ъ ɟ
ψ kgPȚ3/82 FAM83A ĕ H

Ąِ ۰۰۰ ' Ą , ȣ ۲ Δ F ? Ɣ . / 4 / 2
ω ˍ ν / ۰۰۰ ' Ą ẑ__ ۰۰۰ ۰۰۰ ' Ą 0 0 1 . . 0
0 ۰۰۰ ' Ą ẑ__ ۰۰۰ حا ۰۰۰ ' Ą 0 0 1 . . 0
1 ۱ ♣ ẇ , ۰۰۰ ۱ ♣ 0 0 / . .
ρ I ω ˆ Ɣ C ɡ k _d g.jρ0f0 ./ 74>1 , a m k

p ¡EGSeDJS PE >eOÕ5e

FAM83A kPLA

ɟ

1.2.3 ᾰ w ٰ غ نجد

ˉ kgPQ3182 ´ Ḥ DA K83A 3 ū S RP

ˮΩ ẇ ẹ ᖘ l Ấ w ٰ غ نجد l Ψ

ỗ ᾳ ᾷ U R Ụ DA K83A ɷK S R Ụ DA K83A ỗ ᾳ

Ά kgP Q3182 kgkgaqɷkgP Ụ LCẰ

K FCC97F ˜ نجد Ế 48 f ᖘ ᾰ

w ٰ غ نجد ˈḤ Ш ˘

w ɟ

1.2.4 ἕ H

ỗ ᾳ K FCC97F

ɔ Hь 6 NBQ

ỗ ᾳ Ấ 5 J A l l cvgl T Ụ D GɷRC J NG

ẅ ỗ ₱ 1. kgl Hь 1 f Ỉ Ấ

Ᾰ ἕ H Ỹ ɟ

1.2.5 ẋ

. ɷ2 ɷ4 ɷ6 ɷ8 E w ˈḤ نجد Ế

Hь ʔ ˈḤ

1. . a k 1. a k Α͂1. a k ᾺI ˈḤ 3. . a E w -

kgl K FCC97F ɔ

Hь 24 3 Α͂1. ⁴ Y - k J Ấ PNỤ

K Ɋ164. نجد Ế نجد Ấ 37 Ÿ ɷ5 # CM ᾺI نجد Ế

Ỉ نجد Ế 1. | 15 NBQ ᾺI ’ ẋ

نجد Ế ẋ NC ẇ ỗ QD

NC ; ẋ - Α͂1. . # QD ;

NC - NC Α͂1. . # E p_n f N_b

Npgq k7. . Ɵ ˮO ی ´ ɟ

1.2.6 ẍ ○ U cqrcpl `jmr DA K83A ɷ

Baj Ụ2 ɷB_v

ˉ ˘ Ấ PGNA

ˉ BCA

3. e ɨ } } . s

x̄ ± s n ;7

R_`le 2 Bs_l lsagder_se reporter e v pergkentx̄ ± s n ;7

	URŲFAM83A	MSRŲFAM83A
	/,.2 §.,.7	/,.2 §.,.8
	.,38 §.,.2	/,.3 §.,.7
t e	/7,273	.,227
P e	.,...	.,8.4

Á kgPŲLC (P<.,.3

A B

	kgPŲLC	kgPŲ182	_ntgŲkgPŲLC	_ntgŲkgPŲ182
i B_				
2..				
/2.				
/..				
8.				
4.				
3.				FAM83A
2.				
3.				EAPBF
2.				
/.				

A DAK83A 3ū SRPT Á kgPŲ182Ž Ω

B DAK83A

A Rfc3ū SRPkms DAK93D amlrzg m DB3182 clr] c Kcuscl c am" njk 83D

	FAM83A protegn	Apoptosgs r_te #	@al Ul2 protegn	@_v protegn	B. & Ew	'B。& Ew '	L	QF₂
	.,45 §.,.4	8,.4 §.,57	.,52 §.,.5	.,24 §.,.3	2,388	/,4.2	/,835	.,483
	.,3/ §.,.3 (	2.,43 §2,/5 (	.,33 §.,.3 (	.,4/ §.,.4 (	/,323	.,4.3	/,347	.,33.
	.,28 §.,.3	22,5/ §2,/3	.,33 §.,.3	.,43 §.,.3	/,225	.,332	/,35/	.,27.
	.,34 §.,.3 !	/2,47 §/,34 !	.,42 §.,.4 !	.,38 §.,.3 !	2,233	.,284	/,/33	.,233
F e	/43,2/8	/22,./.	/28,555	/83,322				/,835 ̊ خه ,. خه ,27. ⸗ ,23
P e	.,...	.,...	.,...	.,...				

-

UŸ

U•

⁄ ⁄ ˘ , M

˜A ╗ Ƶ˘ ˙ T ƸƵ˘ ,__ ⊢ ˜A0y

ω ˙˙ ν / , ╗ Ƶ Ƶ ˘ ھ │˚ ╗ 0 4 4 . . .

0 │˚ ώ , ˘ ھ │˚ ╗ 0 4 4 . 1 3

ρ I ω ƺ̃ C ɡ k _/ ɡ0 ƺ̃ . 5 . . . 4 3 > o o , a m k

P>.,.3 , C v aept dor REF Ԉ otfer awto i gnes uere sggngdga_ntlw bgdderent gn bgdderent st_ges P<.,.3 , IJ Ԉ2 IJ Ԉ4 _nb IJ Ԉ8 uere sggngdga_ntlw louer gn tfe IC grosp tf_n gn tfe tre_tkent grosp `edore tre_tkent P<.,.3 IJ Ԉ5 _nb IFL Ԉ5 uere sggngdga_ntlw fggfer tf_n `edore tre_tkent P<.,.3 _nb REF Ԉ rsfoueb no sggngdga_nt af_nges P>.,.3 , Conalssgon Pergpfer_l `loob awto i gnes IJ2 Ԉ IJ Ԉ4 IJ Ԉ8 IJ Ԉ5 _nb IFL Ԉ5 f_ve _ aert_gn aorrel_tgon ugtf AJR F@sAg BLA _nb afronga fep_tgtgs @ gndeatgon st_ggng ufgaf a_n `e sseb _s potentg_l ev_ls_tgon gnbga_tors dor tre_tkent od afronga fep_tgtgs @,

I CW U MPBQ Cfronga F@ T gndeatgon Cwto i gnes F@ T BLA AJR

ф ي Fep_tgtgs @ vgrss F@ T

m O ã̃ 2,2

л ж F@ T 4. ˌ ж ġ H ɟ ж

ǔ F@ T ˥ Ъ ж̌ F@ T

щ ɔ ζ Ɑ

ġ /+3 ɟ F@ T Ƀ ӧ ɔ gk Ԉ

ksne toler_nae IR ϵ ӧ gk ksne ale_r Ԉ

_nae IC ʎ gn_atgve vgrss a_rrg Ԉ

er IA ǔ ӧ ʎ ӧ

Ȯ ӧ í ɔ ς ӧm

2ԉ ɟ ġ l ӧ ɲ '

ŭ ę У ʎ Ə ӧ ӧ ǔ F@ T

ʎ ӧ Ψ ς ӧ ' ц Ə

4ԉ ɟ ѿ í ɔ ф ي ӧ ŭ

ʎ ϵ ζ ˅ ф Ξ

Ł ϵ Γ Elst_k_te Ԉ pwrsv_te tr_ns_kgn_se

AJR ϵф ي BLA F@ T BLA

ï ӧ ϟ Ά ɟ ǔ

ġ Ά AJR ϵF@ T BLA ϵ ӧ ŭ

Ă ŭ ʎ ġ Ə ε ф ي

ϵ ǔ ϵ e ɟ

1

1.1 ʒ

˥ 2.17 6 2.19 6 Нь Ж

FBT 75 ʒ ε ʒ

Ấ ج ζ w ɔ ├ ˅ ɦ

ф ي ⊥ 2.15 ɧ 8 Ψ Ă Нь ф

ي ̃A ɟ ├ Н

ʎ Ж ̃A Ấ ʒ ẇ ج

ɟ ̃A ~ _ ´ ϵГ ϵ

r ϵ ي _ ´ ϵ

ϵ = ´ ӧ

ϵ ӧ ~ ´ ɟ

1.2

1.2.1 ŭ

˅ ф ي ӧ ŭ ̃A 8ԉ

FBT ŭ ε GR 2. ʒ FBcAe

A J R 6. S - ϵFBT BLA <1.5 - k JϵGC 3. ʒ

FBcAe) - ϵA J R 6. S - ϵFBT BLA <1.5 -

k J ϵGA 25 ʒ FBcAe + ϵA J R 6. S - ϵFBT

BLA :1.5 - k J˅ 25 ʒ ф ´

ϵ ε ϵ ɟ ą̈ ą̈

ʒ ϵ ج τ Ė ' ɟ

ɔ 1.. ʒ ɔ FBT BLA ˅

˅ ŭ ε н FBT BLA :1.5 - k Jϵ

Ψ 1.5 - k J̄FBT BLA :1.6 -

k J ϵ

Ҥ Ψ P<.,.3 e m

IJ Ţ8 Ҥ ę ҂ ą̈ *P*<.,.3 ţ IJ Ţ5

1.2.4 2 ۱ IFL Ţ0 ≥.,.3 ۳ † Ť+Θ /,%)6-4ţ ţ Ť Ą ñ/ w4IĘ@Í@Ţ H 4 ŻÄE!' I +

3. ę GC 1

▌ ŭ Δ ă ˘ ۰

Ą F2.1..141 Ţ H ε 5 ke - ţ 12 Y

˜ Ő A J Rϐ ۱ ė

Ą ą̈ ŭ

1.2.5 ŭ

QNQQ13.. Θ ţ ŭ

w x ± s Ξ *t*

Ţ ė ŭ ţ Θ ۳ ţ Eţ_nf Ţ

P_b Pţgsk5 ţ P<.,.3 ε τ ţ

2

2.1 ۱ FBT BLA Ą ė Ą̆

ŭ

۳ FBT BLA ŭ Ė I ŭ

1.3 ŭ ۳ FBT BLA FBT

۱ ė 1 ţ

ъ ą̈ G 4 ę G 6 Ţ ϟ ɔ

† ɔ ╗ ╗ ę

ς ╗ 2 Y ą̈ ε P<.,.3 Ė

τ ţ ۱ н

IJ Ţ8 ε P>.,.3 τ ж н

[illegible] 1 : L1 uĐ T0# * 9

w $ 0t %

L'aÒcScqrv&c'`'r`3¡uC1Q9ˆ~)94`Kc'˜ â !  4Wè~‡ #  +±'`=•l„N´˜ ;'` <l€7ls ÕY U'ÂÂ ñ „ØpóÂ òW Ð•5§` *l€ÅÔ˜ æv ¯
L'aÒcS`g¤b-„cSÑv$•Q9ˆ~) 4 •ÄÂp˜7 ' ,f2p˜D™4 •Gòp˜,%' €j$ •lâp˜ ú' €ÀÒp˜2M' ,» p˜-A' ,ú2p˜E @˜ , y2=U'U'ÂÂ ñ „Ø
* /FH

F A T P L ? F A T Ự a ?Qe M B D D ?

/ / / 0 / /ρ

ث Γ یی Ψ Γ P L ?F A T P L ? Ά Γ یی
Ɑ F A T Ự a ?e ɔ ɔ Q M Bϵ D D ? Ặ ِ ِ ِ 0 . / 3/
0 . / 70 / . ʒ F A T P L ? ε í ̓ ẹ F A T Ự a ?Qe M B D D ? ̓ ِ
بم F A T P L ? Ά F A T Ự a ?Q M B D D ? Ặ I Ỉ F A T P L ? ╗
F A T Ự a ? e ς φ ╗ τ P<.,.3 Ξ ∨ Ặ FCT PLA ̓
QMB τ P<.,.3 QMB I Ỉ FCT ỰPLA ╗ ϟ Ξ
∨ Ặ Ặ ϟ ϵΨ FFA τ P>.,.3 ج Ά
τ P<.,.3 ِ FCT ỰaAϕA FCT PLA Ặ Ό Ύ ´ ح
QMB ∧ FFA ϖm ɔ ' w ϰ Ỹ ´ ϖ Γ یی ∧ ɔ
í τ ِ
Ψ Γ یی FCT ỰPLA ɔ ɔ

P<.,.3 Rfe QMB level u_s neg_tgve _ssoag_tgon ugtf tfe FCT PLA P<.,.3 tfosgf tfere u_s no sggngdga_nt bgdderenae od tfe FCT PLA lo_b `etueen tfe lou _nb kebgsk level od FFA grosps P>.,.3 fouever tfere u_s _ st_tgstga_llw sggngdga_nt bgdderenae `etueen fggf Ự lo_b grosp _nb tfe rek_gngng2 grosps P<.,.3 ,
r ς Æ

Ά ϰ , Ά 0 . / .21? . 1 / 1 . 5 .
ω ̵ ν / ', | ώ , ̓ ; ∨ ̵ ما ϰ ϰ ♣ 3 / . / 0 .
0 ϰ ♣ ̵ ώ , ϰ ϰ ♣ 3 / / 2 1 4
ρ I ω شدی شم C g k _/ g 5 ρ 3 . / 0 0 6 ʒ a m k

I Ỉ FCT PLA ╗ QMB

ҩ Ξ η ɱ ҩ

P<.,.3

UU•UŽJŸ 2 2 Xy1 0 @

UA ÌÎÂÛŽÛŸ7 Ctdp0 M M pd¥P ‡ `€ Ð dG †# £p 5" 5" U $ $ 7$ Q=)R U O u ÐP]•" $ M TR T QE ZU JU Z T5”òè@ €

Ÿ

k g Ƒ Ц 0 k g Ƒ Ц 3 .

/ρ 0

ث P L ?k g Ƒ Ц/ 0 0 k g Ƒ Ц 3 ئو ┼ ف ى ق Ψ
ﻻ ﻟﻪ 0 . / 61 0 . / 70 2 3 ┼ ف ى ? в4 ج ف
ى @ 1 3 ج ر ж A Ə ε ɔ k g Ƒ Ц 0
k g Ƒ Ц 3 . ﻻ w k g Ƒ Ц 0 k g Ƒ 3 . A ﻩ Ə ε ﻄ w ı ε ┼ ف ى Ə ε غ ﻄ
ɔ Ə PMA ŭ k g Ƒ Ц 0 k g Ƒ Ц 3 . ق ┼ ف ى
Ąą PMA e в в в e в e 1 ´ ﻻ
ﻫ ? 1 @ k g Ƒ Ц 0 k g Ƒ Ц 3 . A ﻩ н A τ P<.,.3 A
1 @ J τ P>.,.3 ﻻ kgPЦ22 ASC ε .,727 73#CI .,7.3|.,77/
ȳ e ε Ct ;28 в в в e в e 1 ´ ŭ ق ε 73,34# в
88,. . # в

ω ˍ ν / , ′ Z ̨ ′ ˝ ˝ ﻫ ﻫ ̨ ′ . 4 2 2 . .
0 , ′ Z ̨ ′ ˝ ˝ ′E ﻫ ̨ ′ . 4 2 2 . .
ρ I ω ﻳ C ɡ k _k g_ jp g I 2e2 |4m3I 34>1 , a m k

1.3

1.3.1 ł

ך 4 k J ₱˜ Ҥ 2 f Ỉ

3 . . . Âg /3 kgn +8. Ÿ ӈ ă

ɟ

/ ,3,2 kgPŲ22 ۱ kgPŲ3.

˜ PLA ך FgPsre Jg o sgb PLA-kgPŲ

LA l gt ъ 23. J Ψ ך PLA ɟ _ aBLA

´ Fgrst Qtr_nb aBLA Qwntfesgs l gt w

PLA ε aBLA א l PLAŲ prgker

Mg v PLA / g ɷ23. kol-J olggo bR prgker /

J ɷ l /3 J ɷ3 Â PR Pe_atgon @sdŲ

der 3 J ɷ23 k kol-J bLRP / J ɷ23 S- J PL_se

gnfg`gtor / J ɷ2. . S- J MŲ MJ T PR_sɷ J ɷ

2 J ɟ ₱ א ӈ̈ گ

P<.,.3 ɟ

ɲ R ɷ@ ɷ ھ ẍ

Ψ kgPЦ3. ' ئو ɷ ۱ ẍ

; ۷ /2 ɟ ж ѿ kgPЦ3.

' kgPЦ3.

Ѓ aЦ kw`نح غ Ѓ ھھ ж kgPЦ

/3. ئو ۰ Ψ ئو

Ї Ψ ئو Ψ Ѯ ۷ ӈ /2 ɟ

ϕ ىى ۱ ┼ ϕ ىى

kgPЦ3. Ѓ ɤ Ҥ ɤ

/3 ɟ Σ A ۱ @

kgPЦ3. Ct e ӈ Ҥ ɤ

kgPЦ3. ɔ ɟ

PMC Ҭ kgPЦ22 ۱

kgPЦ3. ϕ ┼ ϕ ىى

kgPЦ22 ۱ kgPЦ3. ϕ

┼ ϕ ىى ȳ Ct e Ї ϕ ε 28 ۱ 24

ɷ Ї ϕ ε 73,34 # ɷ88,. . # ۱ 7/,38 # ɷ

7/,// # 2 Y ج Ė ɟ

ɔ kgPЦ22 ۱ kgPЦ3. ϕ ┼

ϕ ىى Ė ۱ ' m

Ξ kgPLA ئو F@T ɷ Ѓ ۱ ϕ ىى

Ψ Ə Ѓ w kgPЦ22 ۱ kgPЦ3.

۱ ã ɟ

A ǒ

/ , ┼ ϕ ىى

H , Ψ ╞ 2./5 38 3

488Ц472,

2 , ϕ ىى

┘ ط Ѓ ┼ ϕ ىى Ă H ,

├ 2./5 33 2 333Ц335,

3 . , ╞ Z ئى┘ ж ┼

ϕ ىى ϟ Q ┘ ط , Ї 38H , Ψ ه

2./5 3. 5 H3 542Ц544, 38 542Ц5o

2 ī ȳ

Γ ى f c n _ r g r g F q A A T t g p s q ã ◑ ۆ 0 . 1 φ ۆ Γ ى

ã ζ Ci ج φm ′ ɟ 0 . / 3 ۆ ก ; 7 . # H ; 4 3 7 . #

► U F M Ţ ã ۆ 5 / . ۰ ۆ 6 . # ۆ ³ ɟ

Γ ى A f p m l g a f c A m F _ A r g r ã g q A ۆ ۆ 5 / . ۰ A F A Ψ ‾ / 2 . ۰ ж

/ # ′ θ 0 . . 4 ã ه =Ø?+±@52U‘U‘?=Ø520U‘ T>Y

ه / | 3 7 ж Ţ F A T ε . , 2 1 ɟ

F A T Ė ┼ ′Y ɔ ɔ

ε 3 3 | 6 3 [1] 0 . #1 |. # A F A Ж ۆ 0 . |

1 . Ỉ ก ε ɔ ก ε ɔ

f c n _ r m a c j j s F _ A A a _ ก p a g l m k _

ε 0 | 2 [2] ɟ ت H ъ U F M ก Ъ 6

ω ۰ ν ˜ ′ ώ , ≠ ˘ ˜ ′ 5 / 4 . . .

[2] l ω ۷ ɥ ، C ɡ k _ w g _ j v s/e4f1>, a m k

ث ϕ ی F@T ϕ ی A F@ʎ Ɑ ה F A A Ɑ ڠ
φ ɟ Ч ʎ ʼ w Ạ F@T ϰ ה ɟ F@T
У Ạ Ъ ẹ Ạ ה ‖ ŭ Ă ɟ
F@T Ə Ạ в У Ạ ẇ w ε F@T
ה ẇ í w ל ɟ
ψ ϕ ی Ч

ω ̵ ν ψ | Ƶ ʼ ̵ ھ ̵ , ʼ ʔ אִ ̊ ψ | 3 0 6 . . .

ρ I ω ʼ ‹ ̊ C ɠ k _ 2 g 1 ɟ 6 1 0 . . 5 7 > o o , a m k

1

2 FBT

2.1 FBT Э Ч ̆Ạ LAq ƒ FBT У ɟ LAq ̆ Ньч ̆Ạ Ə c Ч ӈ Ψ FBT BLA ̆ ӂ FBqAe ʎ aaaBLA ̆E [13] ɟ í ƒ LAq 1 w э ϕ ىي

←Ш ⲛ ├ ỉ

←Ш ⲛ ├ Ɑ Ψ ỉ Ԓ,Ԋ←Ш ┘ 1 6

˝ 1 Z´ ɟ ỉ 4̃ ẹ Ψ /̃ ϭE 0̃ ϭΨ

1̃ ╪ 1̃ ɟ ' ã̃ Ė ϭŨ ۱ ' ɟ

غ ъ Ï Ɑ ϭ Ą ۱ Ė Б ж ۱ ۱

Ə ɟ ǔ ϕ ىى ϭ ˥ Ԋm Ω ζ Ə

Ԋ F@T F@T P Lε? ₿ ώ ⲛ غ P L ⲯ ẹ ṇ Y ϟ l m

ṇ د Ԋ Ⲗ F@T ۷ ۱ Ο Ԋ F@T P L ? Ԋ ɔ ;

φ Ţ Ԋ E N 5ε1˝ غ ɔ ɟ 3 ζ ہ