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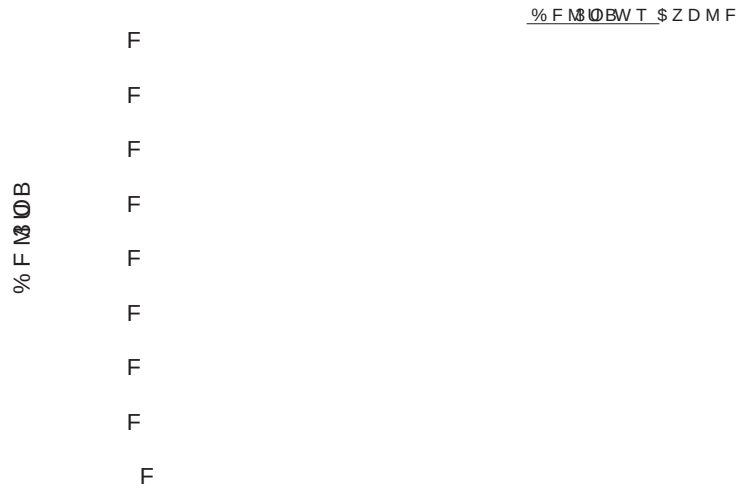
Volume 11 Number 5 September 2019



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分子诊断与治疗杂志

JOURNAL OF MOLECULAR DIAGNOSTICS AND THERAPY

2019 9 11 5 63 Bimonthly Volume 11 Number 5 September 2019

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ϕ ي h e p a t i t HsBV virus

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21 Raimond P o o G l i c C l a n o c T i e l t a a l l . O c c u l t
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22 Pourkar A m M n R i B a v i K u O b y a a e v S
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PCR

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Figure 1 The results of quantitative standard amplification linear curve

2.3 HBV-DNA

Using the Origin 9.0 sigmoidal fit equation $y = A_2 + \frac{A_1 - A_2}{1 + (x/x_0)^p}$, the standard curve was drawn with the logarithm of the concentration of the HBV-DNA standard as the abscissa and the Ct value as the ordinate. The lowest detection limit was 10 IU/mL (Figure 2).

2.4 HBV-DNA

The HBV-DNA quantitative standard was diluted to 200 IU/mL, 20 IU/mL, and 15.14 IU/mL, and the HBV-DNA was detected (Figure 3).

2.5

The HBV-DNA quantitative standard was diluted to 1×10^{8} IU/mL, and then diluted to 1×10^{7}, 1×10^{6}, 1×10^{5}, 1×10^{4}, 1×10^{3}, 1×10^{2}, 20 IU/mL, and 10 IU/mL, and the HBV-DNA was detected. The results showed that the detection limit was 8.87 IU/mL, the 95% confidence interval was 5.84–12.93 IU/mL, and the linear range was 10–1×10^{8} IU/mL (Figure 4). The R^2 value was 0.994, and the amplification efficiency was 90%–110%.

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Y ϟ ŧ e CVe ŭ ą̈ ε

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2.7 ˝ ˀ ڹ ی ڠ

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2.8 ˜A

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4 ĤÁ ₐУ Ĥ í Ȯ ɟ Á ˀ Ŧɔ

Ţ Dprobe Á Taq man

Tab4l eEvaluation of clinical samples of hypersensitive
reagents and a domestic certified reagent

Dprobe ŋ Ĥ ŋ ₐ

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ₐУ Ĥ ˏ Ĥ ₀ 10IU/mL ₚ 20×120

IU/mL

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Ĥ 1 11 12

183 12 1

Y=0.960X30+.202 ³6=0.9658

+1.96SD	1.18
+1SD	0.73
Ave	0.26
-1SD	0.00 -0.21
-1.96SD	-0.66

Ĥ

1.48 3.48 5.48 7.49 9.49 1.42 3.26 5.09 6.93 8.76

Ĥ ₍ᵉ

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Fig8 rCe o r r e l a t i o n a n d c o n s i s t e n c y a n a l y s i s r e s u l t s o f h y p e r s e n s

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ϕ ي HBV ÿ ώ Ψ ɵ e ɟ
ώ ŏ ά w PCR PCRʌ ɔ ɲ w ẍ ŏ
CMIA Ψ HBV DNʌAHBsAƎg ʷm Roche Cobas
AmpliPrep/Cẽbas TaqMan HBV DNɟA 51ɵ Ψ HBsAg
90ɳ 17.3%HBsAg ŏ ε 5 I >5000DU/mɶL I 10000ɵ50DU/mɶL I I
5000ɵ1000DU/mɶLV 100~500DU/mLV 0.05+UU/mL HBV DNAʜь lɶll ɶllVɶV
τ <0.0ɟ59ɳ HBsAg Ψ 13ɳ HBV DNʜAʜь PCR
ʜ ▌ 14.ɟ4%BV DNA 79ɳ 15.2‰Ψ 2ɳ HBsAɛg
CMIA ε 2.5ɟ%15ɳ ʷm Rocẽe ~ 13ɳ
HBV DNA HBsAg HBV DNɷAʜ,Hь ʜ 2ɳ HBV DNA
HBsAg HBV DNAʜь ʜ ɟ Ä Ä PCR HBV DNA
ɵ ɵ e PPVʌ e NPVɷ ε 100.COM%lA HBsAg ɵ
ɵPPɷNPVŏ ά ε 97.ɛ89%7.ɛ88%5.ɛ89%9.5% PCR HBV ʌ PPVHь CMIA
<0.0ɟ5 w PCR HBV DN'A Hь ώ ƃHь ώ ƒ CMIA
Ä ɤ I Ỉ HBV Ä Ỹ ʌ K ẇ ɲ ┼ ├ K ɟ
w PCR HBV DNAɵ ɲ w ẍ ŏ ώ

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GuangzGhuoaungdCohnigr5a10180

ABSTRACTObjectTiove xplore the application value of high sensiti
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inconsistent results from both methods were tested for HBV DNA usir
TaqMan automated nucleiRcascuilAmdscenfgeSeiuom sy9sOpaesmts3.3%
of HBsAg positive spe5gimeunpswaceodridviindgedoi nthe qugarnotuiptative results

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1. 510080
2. 510180
E mahibl9016@3.com

ф ى v i r a l h e p a ф i t i s B

ΐ ► ɟ ф ф ى

h e p a t i t i HsBBV v i ŕ u s ε в

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ₔ ж i ح ф ж †

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9 . 7 5 % ; ж ж H B s A g

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ï2000ŸSRŭ Ă ۍ Abbăt Cobas HBV DNA Ḥ AmpliãPrep ˥Ă۱ Cobas Ta4ϕMan ε 20IU/mL PCR ۍ Ă Cte ´ ã Ă Rocăne ó ҥHь 20IU/mÕΩLó ϕ ي Ḥ ۱ ˥ HBV DNA Hь 20IU/mÕΩLó ɔ Ḥ Ψ ۓ ɛ oy ă ˘ HBV DNA ɟ Architec tḤHBsAgۍ Abbăt ϕ w 2 m ۱ Rocãne ي Ḥ Ĭ ε Ă Rocăne ɟ w ө PCR ۱ CMIA ɟ 1.3 1.34 ŭ 1.31 PCR HBVDNA SPS2S2.0 Ө ŭ w ğ ˥ Ḥ 96 Ψ Ấ 50257 5 Kruslal & Wa۱llisH 4µL Ĭ ө2 0µL Kө2 0µ0L Mann Whitnŭey U w% ۱ ɨ өí ɨ ө ɨ c² w 0.005 τ ɟ ẁ 4Y Ă ɨ ẹ Ấ Sma3r2t ˥Ă ˥ Ḥ Ш ˥ 2 ɟ ~ 40µL / Ấ PCRR Ψ ˉ ϰ 20µL ɟ PCRR Ấ ABI V7ي i Aw PCR ۍ Ă HBV DNAۍ ε 502min1Y 95 15min1Y 94 15s 55 45s 45Y ɟ HBV DNA Ḥ ; ε 10IU/mLFAM ۍ ´Y VIC ۍ ҥHь Ḥ ; ˜Ωó FAM ۱ VIC ۓ ۍ ´Y Cte Hь 45 Hь Ḥ ; ˜Ωó ɟ 1.32CMIA HBsAg ğ ~ Ấ Active2000tŸSRŭ Ă O Ḥ Ш Ə Ă ɟ HB sAg Ъ م ε 0.00~IOU./0mHLBsAg> 0.05ε ɟ 1.33Rocãne HBV DNA Hь ɔ Ă ˉm m Roche Cobas ɋ0 %05 < AmpliPreãp/Cobas HBV DNAɟ Cobas Ampãliprep ˥Ă ˥ PCRR l ɋ Cobas Ta4ϕãMan Ă ẁ PCRɟ

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2.1 PCRĂCMIA 519 Ψ HBsAg 90ҳ ε 17.3ę%Ψ 13ҳ ▌ 14.4%HBV DNҤĂHь PCR ҥ HBV DNA 79ҳ ε 15.2ę% Ψ 2ҳ HBsAg CMIA ε 2.5ę% 15ҳ ˉm ɟ c² ŭ PCRĂCMIA HBV Ŏ τ <0.05 1ɟ

2.2 HBsAg HBV DNA 90ҳ HBsAg HBsAg ŭ

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1 SoriaYouVngRBauNt al. Report f4 Ymnghe NgZhoueTt al. Relationship
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4 MalhotSroaiRnGDroveertPal. Hepatitis HBV DNA integration in patients w
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8 European Association for the Study of The Li2v1e7r96.E5A7SL 573.
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9 Ψ├ ├ Ж ỗ Ж Ψ├ ├ Ж ỗ targ2e0t13687 62706 62714.
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10 KarraCVhKowdhuRyutStJaeta ReRl. Clinic Clinical Implsiecmaitnilon2s0e1r9Dis
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1 PCR PCR CHB HBV DNA %

Tab1l e % ¾ _ b l P

	PCR HBV DNA	PCR HBV DNA IU/mL				
∖	<500 IU/mL	>500	20~500	10~20	<10	
4	14	535.7	642.9	00	321.4	00
12	32	825.0	1546.9	515.6	39.4	13.1
24	31	13.2	1445.2	929.0	619.4	13.2
36	33	26.1	618.2	824.2	1545.4	26.1
48	31	39.7	412.9	412.9	1651.6	412.9
´	141	1913.5	4531.9	2618.4	4330.5	85.7

• ң ’ 7 ɟm 1 7 HBVí

6 . 1 1 3, Roche CAP / CeTM

ң Ң e ≥1 . l0d1gDl UẊ

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m ŏ Ђ 3 ң <5 0 DU /

mL í HBV DNA

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ğ Á † Ж c c ˘ AST

τ 0 . 0ɟ5 ´Y HBV DNA

ң ˘ HBeAg 1 Ş

ğ ң † ɟ ęΨ HBV DNA

HBeAg ң Ң 1 0 ~ 2 0 / mL >5 0 0

IU / mL 0 . 0 5 HBV DNA

ğ CHB Ψ ก

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HBV Ą ’ Ң

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HBV DNA Ė

2 4 HBV DNeA’

VR 2 4 HBV DNA2 ≤l3o0dU / mL

3 VR ą 9 8 . 6% 2 4 HBV

DNAe ’ HBeAg 10 2 4 HBV

DNA6<3I U / mL 2 HBeAg

4 3 . 12 % ´Y è í

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1 HBV DNA 1

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1 World Health Organization. Guide
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2 Terrault LokNASMFcMahoneBiJal. Update
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3 European Association For The Stud
SL201C7linical Practice Guideline
ment of hepatitis .B Jvoiurnsailnoffe hcteipa
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4 SarinKSukmarLMauGkstal. Asian Pac
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1 .

H e p a t o c e l l u l a r C a r c i n o m a

ە 4Ң ۱ 3Ң
ۓ [1] ۼ ە HCC 85% ɔ Ä ф ى
HBV Ą [2] ۼ HBV
DNA HCC ● ۓ [3] HBV DNA
HCC ה [4] ۼ
HBV ғ HBV Ą
ą Ą Ö HBV DNA
ۼ ж í ẉ PCR
HBV DNA Ö ; ε <100 IU / mL
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ъ Ï í ~ ó ۱ Ỳ ۼ
HBV DNA Ö ; ε <10 IU / mL
۱ ڇ Ң ىئ Ъ ң
ф HBV DNA Ä Ą Ỹ ۼ
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Ö ң ; 100 IU / mL ф ى Ą HCC
HBV DNA ẉ
HBV DNA ۏ HCC ж Ψ
í ө [e] ۼ

1 Ä

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├ Ң ۱ Ж Ң Ã ٔ ٦ 2016 [2]
2018 10 ۏ ← ɕ ж
├ ۱ Ч 96 ٪ ф ى Ą
HCC ẉ HBV
DNA 1×100 IU / mL Ψ 81 ٪ 15 ٪
28 ~ 76 ڇ 51 ± 243 . 6 ۼ HCC ٪ G ˛ ´ g Y ˙ z ´ n ˙ Y

ʒ ก ϸ ώ ɔ HBV
ε 47.2% Нь ก ϸ ώ ɔ
HBV 8.3%
c^2=19.82<0.01

2 HBV DNA Ä ɔ ก ɐ M
Ỹ
DNA .
Table2 Patients with serum high sensitivity HBV DNA levels are associated with cirrhosis and antiviral treatment

ά	ʒ	HBV DNA	HBV DNA
ϸ ώ ɔ HBV	36	191	9.8
ϸ ώ ɔ HBV	60	55	57.3
ก ɔ	73	63	65.6
ก ɔ	23	11	11.5

171	7.7
55	2
101	0.4
212	5

2.3 ϊ Ä HBV DNA
96ʒ HCC ϕ ی
3ɟ HBeAg HBV DNA10HU/mL ʒ ε 91.6HBeAg Ψ HBV DNA10HU/mL75%J
τ c^2=0.84<0.05

2.4 ' Ä HBV DNA
96ʒ HCC ' ALΨγGT
72ʒ ▌ 75.0%LΨγGT
HBV DNA 1 ALΨγGT 4J ğ
ɔ Ė <0.05

3
HBV ƒ
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HBV DNA Нь 1000U/mϕ ی
Ä HCC HBV DNA
ก 96ʒ Ψ 77.1% Ό
ğ HBV DNɳA Ä ɟ í HBV
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Ж ESAL≟ HBV PCR
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11 ɟ HBV DNA
Нь ʅ ẇ HBV
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HBeAgϰ I Ỉ HBV Ä
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HBV DNA HBeAg

א 1 2 ﻮﻗ ﻲﻔ ﻲﻓ Ψ ɵ e ɻ
1 8 ﻲﻔ e Ɗ HBeAg ŭ ą̈ א 1
HAB›X!SÄ\®A =õA,$ Ô G'¹A"Ba-ðDN A 1 HBV Ă ŭ ɻ 1 8 HBeAg

8 1 4 6 0 3 2 6 D 2 0 1 6 4 4
6 5 3 1 0 0
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i c h e p a C t H i B t i s ʒ B ɔ ╗ [57] ɟ
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1.2

1.2.1 ٦ Ά P C R l

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1 2 Ḥ HBV DNA IU/mL

Tab1l Ð e t e r m i n a t i o n o f H2BrVeDlNaAtbtesu l t s by

˝	e	e	˝	e	e	˝	e	e	˝	e	e
1	<5	1.7946	16.4	7.0191	<5	429	136	<5	79.3		
2	<5	5.1947	<5	1060 92	<5	<1	137	254	73.7		
3	<5	1.1348	<5	55 93	<5	<1	138	241	<1		
4	12.5	15.149	<5	<1 94	<5	<1	139	192	44		
5	6.18	12.550	<5	6.4695	51.5	<1	140	<5	2.39		
6	<5	11.651	69.5	1660 96	<5	<1	141	<5	<1		
7	<5	<1 52	<5	54.2 97	<5	<1	142	<5	<1		
8	29.9	56.153	<5	174 98	26.9	<1	143	<5	<1		
9	6.06	10.254	<5	333 99	<5	38.9	144	18.4	<1		
10	<5	11.255	31.3	17.9100	<5	2.7	145	48.5	19.4		
11	<5	6.6756	<5	278 101	<5	52.6	146	<5	9.47		
12	31.8	33.557	<5	7.07102	<5	<1	147	63.7	251		
13	<5	<1 58	<5	12.9103	71.1	3.53	148	26.3	46		
14	23.4	58.759	7.94	217 104	<5	<1	149	<5	<1		
15	11.8	5.9460	<5	10.5105	105	17.5	150	<5	1.49		
16	<5	23.161	53.8	19.5106	<5	<1	151	<5	<1		
17	<5	20.762	38.7	3.59107	27.1	56.1	152	<5	6.24		
18	<5	<1 63	<5	118 108	<5	<1	153	13.2	105		
19	<5	25.864	7.17	<1 109	41.3	43.7	154	94.5	56.9		
20	<5	<1 65	<5	6.5 110	<5	<1	155	<5	<1		
21	10.2	<1 66	<5	11.7111	<5	<1	156	<5	19.7		
22	<5	<1 67	<5	<1 112	<5	<1	157	<5	644		
23	<5	60.968	<5	127 113	<5	2.64	158	<5	267		
24	<5	1.8669	101	2320 114	28.8	10.8	159	<5	27.1		
25	7.67	94.170	<5	42 115	<5	1.03	160	18.1	49.9		
26	<5	<1 71	<5	1160 116	<5	6.85	161	16.2	27.2		
27	<5	3.4672	<5	156 117	<5	11.5	162	<5	6.81		
28	66.2	28.273	12.4	44.7118	<5	8.98	163	82.1	737		
29	<5	8.8874	16.7	138 119	<5	13.3	164	<5	90.9		
30	24.2	102 75	<5	<1 120	<5	14.9	165	<5	4.47		
31	<5	<1 76	<5	113 121	29.9	246	166	<5	19.5		
32	41	102 77	<5	43.2122	7.04	7.34	167	<5	13.3		
33	20	214 78	85.5	556 123	27.5	24.9	168	<5	16.1		
34	<5	87.379	<5	<1 124	41.9	47.2	169	<5	5.31		
35	33	<1 80	13.6	112 125	<5	19.2	170	<5	3.02		
36	<5	861 81	11.6	22.7126	342	88.5	171	49.4	88.7		
37	<5	1.0382	<5	14.5127	802	2140	172	<5	8.65		
38	<5	122083	<5	11.9128	<5	1.47	173	7.8	73.2		
39	92.2	1.5984	<5	12 129	188	15.7	174	<5	4.4		
40	26.1	77.485	45.5	727 130	159	1.72	175	843	1290		
41	<5	<1 86	42.6	666 131	<5	18.2	176	<5	15.8		
42	<5	9.0287	<5	14.3132	<5	7.19	177	92.6	178		
43	<5	116 88	24.1	536 133	63.1	80.9	178	<5	<1		
44	12.5	86.689	<5	3.84134	20.6	26.2	179	<5	9.32		
45	<5	20.490	<5	10.6135	42.5	13.2	180	<5	6.97		

2 2 ĮĦ HBV DNA %

Tab2l e Comparison of HBV DNA positive rates detected by 2reage%ts

ĮĦ ȝ	c² e e
ĮĦ 1801480.6351 9 . 4	54.3<0.001
ĮĦ 1807742.8105 2 . 2	

2 Ott S Jevens GrGoAegeetr aJl. Global epidemiology of hepatitis B virus infection: new estimates of age-specific HBsAg seroprevalence and endemicity J. Vacc2i0n1e2 2012 2212 2219.

3 ٩ ٩ . ٫ PCR ϕ DNA ϕ Ă J.Ψ ► Ï Δ 2013 3 31 0 1 1 9 1 1 1 9 2.

4 Dienstag JL. Hepatitis B virus infection N Engl J Med 2008 359 14 1486 1500.

5 5 Fe 152 ÙÀ ÜÖ ÀÜ ÀÜ 1 41 7 Ý. J 2 gY 12 s UÀ UÀ 4

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ğ ŵ ã í O ă Ă ►
Ψ ϕ ي h e p a t i t i s B v i r u s i HBV COBAS Am
φ m ŵ ã 2 . 5 7 p l i P ŋ e A p ε 6 0 μ L ‴ Ḥ ε
ж H 8 8 . Ж ę Ψ 2 5 % Њ COBAS HBV T 2 e s t Ro c h e У HBV
Ă ת 1 ɟ ئ Ạ HBV Ạ Sma 3 r 2 ã ך A
ϕ ي C h r o n i c h e p a t i t i s B ε 2 0 μ L ‴ Ḥ
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Ḥ e ŏ ε ł ą̈ HB Ẃ
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ي	HBV 1 0 I U / m L	HBV 9 / 1 9 I U / m L
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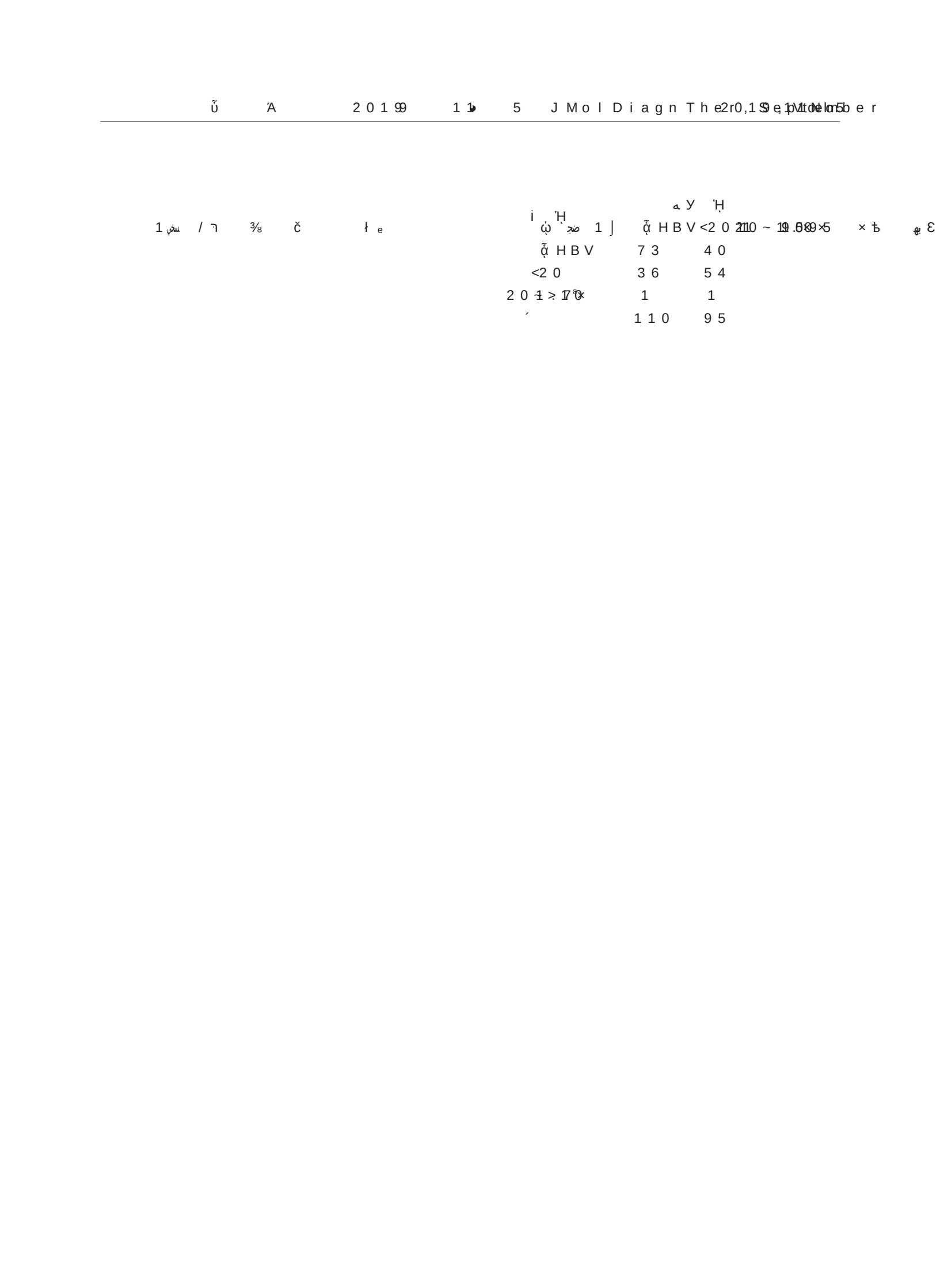
ά У Ή
ώ Ή ضج 1 ⌋ ᾷ HBV <2 0 2 1 0 ~ 1 5 × ђ ϐ Ε
ᾷ HBV 7 3 4 0
<2 0 3 6 5 4
2 0 1 1 7 0 1 1
1 1 0 9 5

ę Ã ł Ç Δ ă ε Ψ ж ε m
HBV DNA ł ÃŃ[14] ɟ i Ḥ Ь ж Нь ŏ ₐ У Ḥ
Ė в ж ę Ḥ ł Нь 2 0 ~ 1l 0U0/ m ь φ ę ħ Ь
Ѧ ъ w ɔ Ỹ Нь í ‴ Ж
ğ í ɔ Нь ẇ ą̈ Ψ ی ɔ Ь [2] ɟ
├ ɟ Ḥ в ẇ Ä Ŧm ŏ
ф ж ф ɟ ת Нь
ė ת ₐ У Ḥ ƒ φ m د ₐ У
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ɔ ٦ ٦ ж Ψ HBV
DNA Ẉ ъ ٦ ɔ m ğ
Ḥ ɔ Ḥ ‴ c Ŧ م
1 0l U / mğL ɔ Ç ; 1 0l U /
mL ’ w Ȯ م Ƀ 0 ~ 2l 0U / mL
φ e ɟ Ŧ 5 1 ₹4 ф
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KEY WORDS: Hepativtiirsa Cicloorarde tcaonsiosnstency

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Tab4l e iver function index and AFP abnormality rate

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c^2 e	20.14	50.188	3.734	1.026	1.320	2.046	8.787	12.781	
e	<0.05	>0.05	>0.05	>0.05	>0.05	>0.05	<0.05	<0.05	

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ABSTRACTObjectTiveevaluate the clinical Csiygnificvieclasnacreof cystatin
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KEYWORDS CystatHinepaCtic arteryCirrhosHotespiasticeindfdeixrosis

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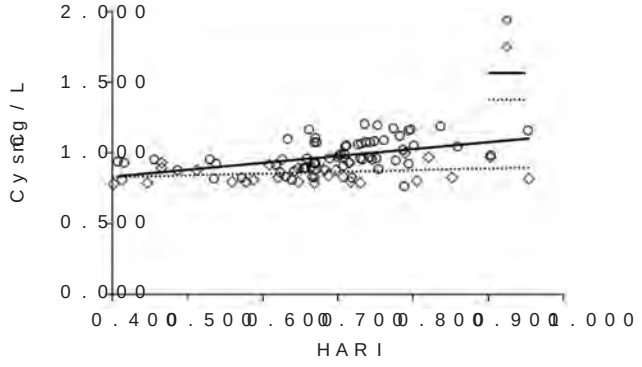

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Tab5l Ec omparison of liver2fgunoctpiosnU/bLe tween the

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	81.553±2565.201±201124.5288.±9573.201±021187.1774±.318109.152.±02					
e	1.065	4.529	1.048	7.021	0.116	6.127

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Ą ų ẉ PCR Western blot ẇ Ψ miR182
miR318 m2 im Acssi R AS Ă ǫ Ả MHC C7H ẋ
miR182 A2 FAM83A Ĩ ě H Western blot
Bcl2 Bax ɲ miR182 ɔ ę Ẋ ẉ ˆ ɔ ę Western
blot ų miR182 Ψ ; FAM83A ɔ miR182
Ą FAM83A ~ Bcl2 ; Bax ɔ miR182 ~ ´
FAM83A ' FAM83A FAM83A miR182 ě H ẇ
Ə ų miR182 ' ~ FAM83A ˛ ě H Ą
ę ъ ų
miR182 FAM83A ě H

kgPÎ1/60 npmkmrcq rfc _nmnrmqgq md fcn_rmÎa_pagImk_ acjjq _lb clf_lac rfc p_bgmÎqclqgrgtgrw md jgtcp a_lacp acjjq

YU Fen[1] g qXiUnYun[2] f aZ HgANG Q[3] ing
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2^ΔΔCt miR3182 mRNA

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miR3182 Ḥ FAM3A ′ UTR

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min MHCC7 H ɔ

Hь 24 3×10 Y / mL Ấ RP

MI1649 É ż Ấ 37 °C 5 % C_2O ˀ ż É

Ỉ ż É 10 ~ 100 PBS \ ′ ẋ

ż É ẋ PEW ŭ SF

PE = ẋ / ×100 % F =

PE / PE × 100 % GraphPad

Prism 7.0 ˙ ˝O ی ´ ɟ

1.2.6 ẍ ○ Western blotting

Bcl-2 Bax

ˀ ˘ Ấ RIPA

ˀ BCA

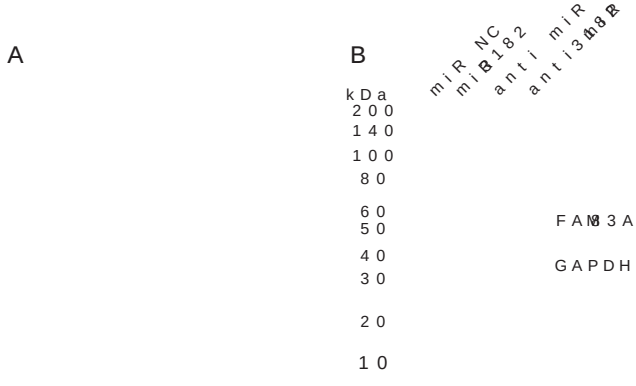
30 µg ł } } , s

2Ν w ˆ ¯±s =9

Tab2l eDual luciferase reporter experiment

ǔ	WT FA8M3A	MUT FA8M3A
miR NC	1.002±09	1.004±08
miR182	0.308±04	1.003±09
e	19.495	0.249
e	0.000	0.806

ΆmiR NC *<0.05



A FAM83A 3′UTR ΆmiR182 Ύ2 Ώ

B FAM83A

A The 3′UTR of FAM83F contains mismatched nucleotides compared to the 3′UTR of FAM83A 83F

ǫ	FAM83A Apoptosis protein	Bax protein	SF
miR NC	0.607±0.068	0.706±0.070	0.706±0.032
miR-182	0.301±0.028	0.265±0.007	0.305±0.030
miR-182+pcDNA	0.208±0.022	0.271±0.003	0.303±0.030
miR-182+pcDNA-FAM83A	0.606±0.052	0.693±0.006	0.604±0.060

e	165.411	184.011	184.771
e	0.000	0.000	0.000

785.524 1.857 .0 .290

0.000 0.000 0.000

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1 ٦Ở . Ă ч HLA A2 ... J.Ψ ... 2012;32 117 121.

2 ă i Ω . AFP TP8 ALB SOD ... J.ŭ Ä 2019;71 37 40.

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14 ... II . RNA122 ... Ä J.Ψ ... 2013;963 567 567.

15 ă . FAM83A ... Ä ~ Ă J.Ψ ... 1 U•1 567Ă12

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significant diβfbfeetrweenecne time>TDGFDo5uExscept fβoortThGeFr cytokines were significantly diffe<0e.n0t5li4nldL6afinfe8eurtrestsaiggensignificantly lower in the group than in the treatme<0t.gFdL1u7amdeIyEWeerterseiagtnmiefnitcantly higher than before tr<0a.t0mSaemdtTβSFhowed no signif>0 c0a5Ctonhcalnuβeisminpheral blood cyt4okLGneLS8 IL17 and IyFhNave a certain corHrBeslAagtDNA awnidh ALT chronic hepatitiswBhinonfieccatniboen usstaeadgiansgpotential evaluation indica chronic hepatitis B.

KEYWORDS Chronic HBVCIyntfoekcHtBiVeosDNA ALT

ф ىي Hepatitis B virus

m O â 2.4 1.2.1 ŭ

л ж HBV 6 0 ę ж ė H ł ж ˚ ф ىي ÿ ŭ ˜A 89 75 ą

ğ́ HBV ˥ Ъ ж HBV HBV ŭ ε IT 20 ą HBeA-g ɞ

ш ɔ ζ Cl ALT6<0U/dLHBV DNA2[5]0 /mLɞIC 30 ą

ė [13] ł HBV Þ ÿ ɔ im HBeA-g/ ɞALT6>0U/dLHBV DNA2[5]0 /

mune tolerance immune clearA 25 ą HBeA-g ɞALT6<0U/dLHBV

anclеCl inactive viDrNuAs1<50ar/mL 25 ą ф ´

erIA ğ́ ˚ ÿ ж ˚ ŧ ε ŧ ł ą̈ ą̈

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[67] ł ѽ í ɔ ф ىي ÿ ŭ mLɞ L /2 Š

Ə ɵ ζ ˚ ф Ξ

L ɞ Г Glutamate pyruvate transaminase

ALTɞф ىي DNAHBV DNA

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▌ ǚ Δ ắ ˘ ɑ

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˜ Ő ALT ᅥ ἑ

Ά ᾦ ǚ

1.2.5 ǚ

SPSS13.0 Θ ฿ ǚ

ɯ x̄±s Ξ *t*

╥ ἑ ǚ ɟ Ә ǝ ʄ Graph

Pad Prism 5.0 P<0.05 τ ɟ

2

2.1 ᅥ HBV DNA Ά ἑ Ặ

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HBV DNA ǚ Ẻ ǀ ǚ

1.3 ǚ HBV DNA HBV

ᅥ ἑ 1 ɟ

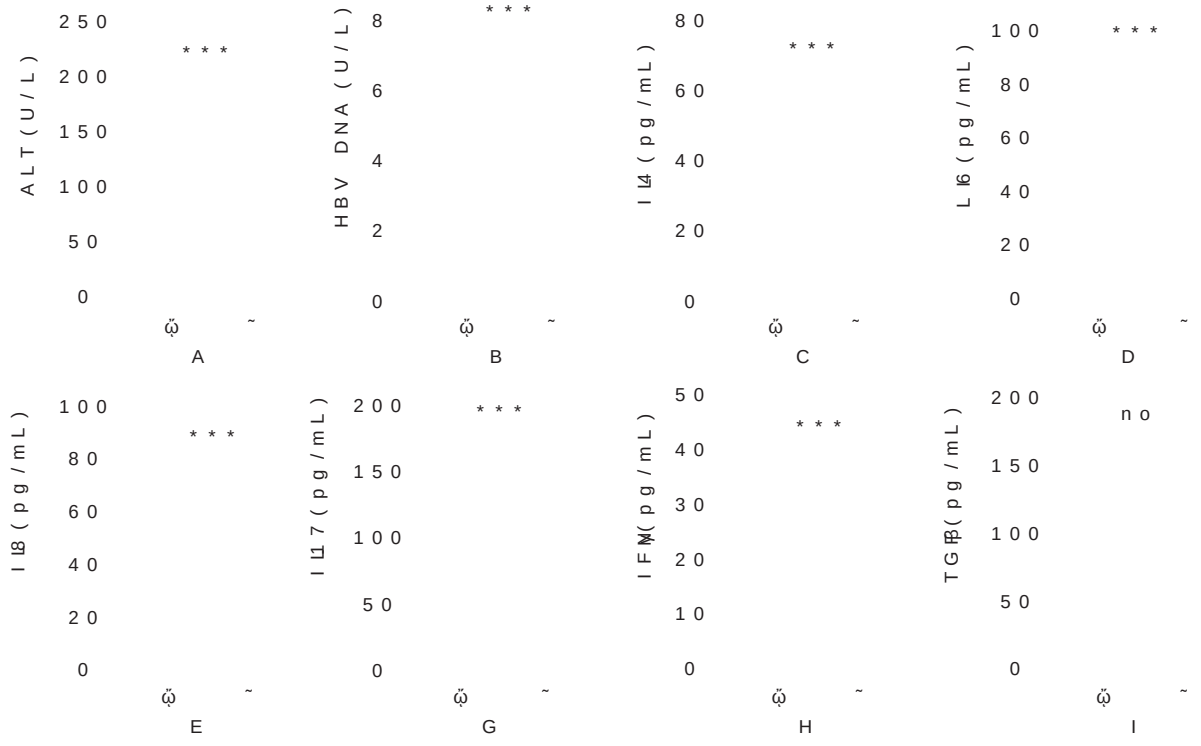
ъ ᾇ ǀ L4 ɞ ǀ L6 ל ɔ

† ɘ ╗ ╗ ẹ

ʢ ╗ 2Y ᾇ ε <0.05 Ẻ

τ ɟ ᅥ ң

ǀ L8 ε >0.05 τ Ж ң



ѧ 2 ώ˜ ALϖHBV DNA ė Ɔ ɔ

Fig2 rChanges oHBAXLDNA and cytokines before and after antiv

Ş φ ɟ Á I L4Ɔ ɔ Ч I L6ϐ ė Ə ; TЋ17 ŏ ɔ I L17
I L8ϟ TGFβɟ I L6 m ė ę ╗ ε O CD4+ T
╗ Á˘ 17w ẇ ϐ ɔ ¨E ė ˛ Ђ TЋ17
ϟ ת ϟ Ă ɟ ŏ ɔ ж щ ɔ ǫ ¨Ą I L17 ŏ
Ψ I L6 ALT ╗ ╗ Ş m ; ɟ IFNγ ɟ
Ђ I L6’ w א Ў ɟ TGFβÁ ˝ HBsAg DNAÆL Ũ
Ψ Y ė ў Ə Ă ɟ ğ ф ى ė I L4ϐI L6ϐI L8ϐI L17ϐI FNγϐ
Ψ א TGFβ Ɔ ɔ † ₄ 3 ė ’ w Ə
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* /FH

HCV RNA HCV cASgOD FFA

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Γ ی Ψ Γ RNAHCV RNA Ă Γ ی
Cl HCV cWAg ɔ ɔ SODɷ FFA Ă ɻ 2015 1
2019 2 10 5 HCV RNA ε í ˀ ę HCV ɷWASgOD FFA ˉ ɻ
HCV RNA Ă HCV ɷSAQgOD FFA Ă I Ỉ HCV RNA ╗
HCV cAg ς φ ╗ τ <0.05 \ Ă HCV RNA ˁˀ
SOD τ <0.05 SOD I Ỉ HCV RNA ╗ ɳ Ξ
\ Ă Ă ɳ ɷΨ FFA τ >0.05 ɷ Ă
τ <0.05 HCV ɷAAHgCV RNA Ă Ό Ύ ´ ɴ
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FANG Wei zGhUeWhen s hFeAnNG Qi mZeEiNG W uyDil NG RDUAN Chaohui
1. Laboratory Medicine Department of Memorial Hospital of Guangdong Medical University Sen University
dong China 510120 2. Guangzhou Medical University Guangzhou Guangdong China 511436

ABSTRACT Objective To investigate the correlation between hepatitis C load and hepatic HCV copy number and the SOD and FFA in patients with hepatitis C virus infection Methods A total of 1 patients with hepatitis C virus infection from January 2015 to February 2019 were enrolled and the levels of SOD HCV RNA and FFA were also detected Results The HCV RNA load was significantly correlated with the level FFA. The HCV cAg positive rate was 50.00% The SOD activity was negatively associated with HCV RNA there was no significant difference of t between the low and medium HCV RNA groups but was statistically signif difference between high HCV RNA group and the remaining p

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2. 2 HCV RNA Ά SOD FFA

ł Ĭ HCV RNA ╗ SOD
ң Ξ ≀ Ą Ą ң ϑΨ FFA

10 Ѣ Ψ HCV RNA ˝ SOD τ >0 . 0 5 ҷ Ά
≀ FFA τ <0 . 0 5 τ <0 . 0 5 2ł

2 HCV RNA Ά SOD FFA

Tab2l e Comparison of HCV RNA group and result of SOD and FFA

HCV RNA ŏ copies / mł		L g HCV RNA	SOD U / mL	FFA μmol / L
ң	(11×10- 1×1 ⁵)	2 2	4 . 484 . ±4 9	1 4 1 . 1 2 8 7 . ±1 1	5 3 0 . 1 8 9 6 7 ± . 9 3
Ψ	(11×10- 1×1 ⁵)	3 4	5 . 6 5 3 . ±4 1	1 1 5 . 1 7 7 6 ª ±0 4	5 9 2 . 2 7 8 4 3 ª ± . 9 0
	(1 ± 1 ⁵)	4 9	7 . 2 7 8 . ±5 1	9 7 . 1 9 8 6 ª ±3 1	7 3 6 . 2 4 1 7 8 ª ± . 8 6
		1 0 5	6 . 9 7 5 . ±3 8	1 1 2 . 2 8 4 0 . ±3 1	6 4 6 . 2 8 5 5 1 ± . 3 6

ª 0 . 0 5 0 . 0 A 5 ң ≀ Ψ ᶜ 0 . 0 5

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HCV RNA Ẇ HCV ł HCV RNA
Γ یی í Ă ж ς ğ ᵐ
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miR122 and miR150

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RNAmiR122miR150 ┼ ϕ ي ά Ψ
ɟ 2018 3 2019 2 45 ┼ ϕ ي A ϐ6 ϑ ϕ
ي B 150 ϑ ϝ ж C Ə ε ɔ miR122
miR150 ɟ w miR122miR150C ᵉ Ə ε ϧ w ı ε ┼ ϕ ي Ə ε ė ϧ
ɔ Ə ROC ŭ miR122miR150 ά ┼ ϕ ي
Ά ROC ȳ ᵉ ϐ ϐ ϐ ᵉ ϐ ᵉ 1 ´ ɟ
A 1 B miR122miR150C ᵉ ҥҤ C τ <0.05 A
1 B J τ >0.0ɟ5 miR122AUC ε 0.994 9% 0.903~0.991
ȳ ᵉ ε C t2=8 ϐ ϐ ϐ ᵉ ϐ ᵉ 1 ´ ŭ ά ε 95.5ϐ6%
88.0ϐ0%

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83.5% 69.7% 65.9% and 58%. The AUC was 0.939-0.985 for the optimal cutoff value was 2.6 Compared with the positive predictive value negative predictive value 91.1% 100% 96.4% and 90.5% specificity. The differential diagnosis of 122 adult hepatitis B mir-150 has good sensitivity and specificity.

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ɹ
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RNA ɳ HiPure Liquid RNA/miR
NA Kiь t 2 5 μ 0 L Ψ ɳ RNA ɹ cDNA
´ First Strand cDNA A Synthesis Kit
RNA ɛ cDNA ₳ l RNA primer
Mix RNA 1 μ g ɕ 2 5 μ 0 m o l / L o l i g o 1 d T p r i m e r
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ה ס ס Ψה ĂĚ Ə [9] Ş
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ג miR122 ה ф
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ң [11] ł Gao [12] ŽΩ miR122 ; '
ң HBV ł miR
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[13] ɔ 1Ė HBVƏ
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A ĄĄ B miR122C te
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91 . 12LY% ę Ė ł
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PCR
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ing procedures HBV DNA
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UNG DNA

3 ˘ ≟ĂHь ϕیی

Tab3l eThe recommendations for antiviral treatment of chroni

≟	ϕیی
Ж ЖAPASL 2015	HBV DN≥A2 00 0 0U / mHLBeAg HBV DN≥A2000U / mL HBeAg HBV DN≥A2000U / mL ɔ ɔ
ѧ ЖAASLD 2018	HBV DN≥A2 0 0 0U / mHLBeAg HBV DN≥A2 0 0U / mL HBeAg HBV DN≥A2 0 0U / mL ɔ ‴ ALT HBV DN≥A2 0 0U / mLж ц ɣ ɔ
ЖEASL 2017	HBeAg HBeAg ϕیی τε HBV DN≥A2 0 0U / mL HBeAg HBeAg ϕیی HBV DN≥A2 0 0U / mL ALT ɔ ´
ѧѧ ► ⅂ ⊬ NICE 2013	HBV DN≥A2 0 0U / ‴LALT ɔ ‴ HBeAg ' ⍰HBV DNA
ΐ ► WHO 2015	ALT HBV DN≥A2 0 0U / ‴L HBeAg
Ψ ⊨ ⊦ Ж ŭЖ 2015	HBV DN≥A2 0 0 0U / mHLBeAg HBV DN≥A2000U / mL HBeAg

HBeAg c ΨѧѺЖ ≀ ѧ ≟
HBV DN≥A2 0 0 0U / mHLBeAg
c HBV DN≥A2000U / mL ɔ Нь í
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ɔ ƒ ⍰ HBV DNɟAȩ
í ⊦ ' ´ ˘
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HBV DNA ш ' HBV
DNA5<0 0U / mKL HBV DNA ;
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ABSTRACHepatitis BHBV virus is one of the important causes of chronic hepatitis B and primary hepatocellular carcinoma. Nucleos(t)ide analogues and interferons have been used to be effective in controlling HBV and reducing the incidence of HBV related liver cirrhosis and hepatocellular carcinoma. However, drug resistance limits the long term effectiveness of antiviral therapy. Therefore, it is very important to study the mechanism of HBV drug resistance, which is critical for the development of new antiviral drugs. This article reviews the research progress of the mechanism of drug resistance and the corresponding countermeasures, which provides a reference for the development and clinical treatment of new antiviral drugs.

KEYWORDS HBV; drug resistance; nucleos(t)ide analogues; new drug targets

ф ي hepatitis B virus
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HBV ŭ ε Ą HBV ğ l Ĭ ѡ ѧ l ӝ Ω Ξ Y ɟ ѽ í HBV ζ Ч Nucleos(t)ide analogues (NAs) inter-fere with HBV ζ ɟ ζ Ə Ą Ą HBV Ą Ψ ´ reverse transcription polymerase ę ѵ ѵ ъ Ą ф [4] ɟ HBV Ą Ă Ƽ Ā HBV ɥ HBV DNA ɟ NAs Ā

S ğ Ψ ´ ъ Ą HBV ɟ ѽ 5 NAs FDA (Food and Drug Administration) Þ lamivudine (LAM) ade-fovir dipivoxil (ADV) entecavir (ETV) telbivudine (LDT) tenofovir disoproxil fumarate (TDF) [5–7] ˘ Ė I Ə Ą ˝ ˀ ѫ ѿ Ą HBV Ą 1 ɟ ę Ψ ɣ (reverse) NAs HBV Ə ф ی TDF ˜ ' Ą HBV Ą 24 ѵ [8] ɟ ѫ NAs ѪҜ У ɟ

1 NAs Ą

Table 1 Antiviral mechanism of various NAs

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ɨ ɛ Ч	Ā ɨ ɛ S ´ HBV Ң
₸ Ч	Ā NTPs S HBV DNĀ
▌ Ч	Ā dGTPS HBV DNĀ
ɨ ɛ Ч	Ā HBV ɨ ɛ 5 ′ S
Ѫ	Ѫ S Ấ DNA Ψ Ңъ ę ï 3 ′ OH DNA ɔ Ą Ą

IFN ₸ ж l ӧ w Ấ ɟ IFN ğ ė Þ 3 ی Ǫ ε αєβєγ ę Ψ IFN ε ζ [9] ɟ ğ l ӧ У ɟ Ңъ HBV ė Ą Ψ У ѵ ӧ ɟ IFN ė У Ь ѵ Y ф ی ´ antiviral proteins ˝ II AVP ə Ə ę Ψ PKR protein Ki ӝ ɔ nase PKR ѵ 2 5 ´ 2 ′5 ′ oligi ɟ HBV ε í Ψ goadenylate 2 5-synthetase ɟ [10 11] ɟ PKR mRNA 2 ′ 5 ′ OA'S Ą ´ J ѿ ' ğ Ĭ ғ ; ɟ IFNĖ ӧ ' ӝ Ҟ T Ǫ Ω ɟ IFN ҪҜ У ɟ c 26% ф ғ [12] ɟ

2 HBV Ɑ ė

ф ی ğ ɔ Ψ ɟ Ңъ HBV ė Ą Ψ ѵ ė ɔ ӝ Ə Ą HBV ε í Ψ ɟ

2.1 HBV ɔ Ч Ą

NAs ғ HBV ɟ NAs ś Ңъ Ч Ą Ə c Ч ң Ψ HBV DNĀ ѫ HBs Ag c c DNĀ [13] ɟ í ғ NAs 1 w ɔ ф ی

HBV

14 NAs HBV

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HBV HBV RNA RNA

HBV HBV RNA

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