ARTICLE

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Cellular and Molecular Biology

BACKGROUND

$B \cdot c \qquad (BC) \qquad \qquad e_{y} \cdot e_{y} e_{y} \cdot e_{$
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• fi '• $- n \cdot q$, ' $\cdot \cdot 2.7999878()$ '317.7000122($\cdot q$)-321.7000122($\cdot n$)-320.7000122($\cdot n$)-322.7999878(\cdot)-316.5



Fig. 1 CBX7LE

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Fig. 2 EZHS & The ChIP-seq of EZH2 and H3K27me3 on the promoter region of CBX7. The ChIP-seq numbers and corresponding used cell lines were indicated. The ChIP-seq data were obtained from the ChIP-atlas (http://chip-atlas.org/). b T24 and 5637 cells were collected and ChIP-qPCR was performed. the ChIP-qPCR analysis by using the IgG or EZH2, H3K27me3 antibodies in T24 and 5637 cells. Data presented as mean \pm SD with three replicates. **P < 0.01; ***P < 0.001. c, 5637 and T24 cells were transfected with indicated siNC, siEZH2 #1, or siEZH2 #2 for 48 h. Then, cells were collected for 99939(pro3.899resor)-25ig.

CB 7 • , • , BC 1 4 • FGF 3. F •, E H2. H3K37 3 , m m m m m m m CB 7. FGF 3 m m F ÷. $\begin{array}{c} & \overset{\mathbf{T}}{\mathbf{n}} & \mathbf{f} \\ & & \mathbf{n} & \mathbf{n} \\ & & \mathbf{n} & \mathbf{n} \\ \end{array} \begin{array}{c} \mathbf{C} \mathbf{B} & \mathbf{7} & \mathbf{y} \\ \mathbf{F} & \mathbf{T} & \mathbf{y} \end{array}$ 4. m 1 • 4 • n n . **'**. F FGF 3 , ··· · 7 · m FGF 3-AK • 🕥 • ,, BC . ----÷. ----

METHODS

C 9 É

786- A498_m• [4 .. 5637 . 24), MI-1640 (FB ; AC03L055, (MEM, GL A), MI-1640 (FB ; AC03L055, A498, ACH (MEM, GL A), (MEM, GL , ç**'**) 'n fi. DĮ ń · 、24 , **,** , , E. 4 • , 24 10% 📊 ł n 4 L - L_k B , , , ,) 1% • • • 10% m• [4 m • • • • • 37 C 5% C 2. . 4

A , b, 4Ea a 4E CB 7 (#26278-1-A', , , 1:1000 , ,), FGF 3 (#4574 , C , 1:5000 , ,), E H2 (#5246, C , 1:5000 , ,), E H2 (#5246, C ,), AK (#4691, C (#4060, C ,), 1:500 ,), H3K27 3 (#9733, C ,), 1:1000 ,), FGF 3 (#4574 , C ,), 1:1000 ,), FGF 3 (#4574 , C ,), 1:1000 ,), FGF 3 (#4574 , C ,), 1:1000 ,), FGF 3 (#4574 , C ,), 1:1000 ,), FGF 3 (#4574 , C ,), 1:1000 ,), FGF 3 (#4574 , C ,), 1:1000 ,), FGF 3 (#4574 , C ,), 1:1000 ,), E H2 (#5246, C ,), 1:1000 ,), E H2 (#5246, C 1:100 (# 100B 01). C- (# 1166), MK2206 (# 1078), 4165 $\begin{array}{c} (\# 5315), & G K126 (\# 7061) \\ (\# 5315), & G K126 (\# 7061) \\ G \\ \end{array}$ (, •, , , M 🦕 🐂 .

W¶Ér, b_raa¶⊈É

- m 11.**4** mr.N • į m **m** 20 . ℓ Y 5 10 ΙA_Į, . • • • . • (B 4 - 46 men, Ç ') m 30 • 4 C , m 1‰ 🖡 € • m • 12,000-15 . 4 •, •} m • • ,4 m • ,4 , (100 C) 10 1 1 e tall and

*). y = * * * * (B 🔺 m • · • Bring man -fh ΙAγ, Ç E Ę • · • · µ K• (0010 , B A B 🖷 -8 D-AGE 10**1**1 / Ę, m fi -′; M ₽ · • • m• m .DF Þ **m** 5% m¹/ • • -m • 1/m m 1/m 9 • 4 C. .,. m 4 • • - **[**4 1. mr. n. ł · • m. fi ECL , m^F 20 20005, 🗸).

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DA _ CB 7 HA-CB 7 M14, A). A ((H H111798-L 6G A), Α ÷ •, Į n^Bm •1 Α, Ã, m% 1. F._m• Ă, •fi,Ç m/4 ---₹¥. 2000'(y TF) m • • w . •, ! **%** • , . 1 m 1 . F_m - • , • FB 10 / •. Ε_m , η , Ε_φ fi , ς Α (A) ..Į 2000 (). . . . • , m^Eq · • ••• А) • <u>1</u>293, • 1 . A 24, • • • 10% FB DMFM • . A• 48 - 1 M -----• • • • ۲ ۲ m • • m* • • · • • 12 µ / n n k . F 4 1µ// • / * / m - m* * · m /4 m.

PCR (RT- PCR) , a⊣ Osa rran

m, 20.1 µ, mF, fi ≯ A). RG m, C finnin 🥫 C 👘 • • (4 ----、 L ----- C . . . • K•, # 430A, BG ••• • TM 037A ™F.•, C M., GADH , , , , **•**, .•, • m. $2^{-\Delta\Delta G}$ • • , '- Ĉ • 4 ຳ" 1 Y _ . m 3.



ا _{لی}ے c _{یع} ar **_ •at**Ea

CCK-8 • (#C0037, B 450⁹ m ĥ 1 4 CCK-8 (IC50) . . • <u>↑</u> (l 5637 50) - 1 - 24 m 4 24 .Ιμ ,1000 • 100 μ DMEM …• 96m²⁴ • 10% FB . •, . -....

A = 24 A = 37 E = m = 37 $S^{2} = m = 1$ $S^{2} = m = 37$ E = m = 37 E = 10 E = 10

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H $_{m}$, C $_{m}$, K (A $_{m}$, C $_{k}$; 2021896). BALB/ (4-5 $_{m}$, G $_{m}$, G

Sra¶É ca a a¶∉É

RESULTS

CBX74 É I G fi 26 F26) (17. CGA 7 nn.). (F fi ÷. 20. . 1. 20 IHC 1 7 γŕ (F. . 1). M

ln = 20(n = 80)(F. D BC m % CBX7 21 4) m CBX7 H3K27 **m** 22, 23 **!**m CBX7 (F. 1). ۹h 7 fi -----**20**

EZHELÉS (MPEELÉCBX7 (MPEELÉ)) H3K27 (art_ BCc 4)É

, H3K27 3 n fi • n CBX7 (F. 20 -27 (H3K27 nn. H3 24 С E H2 H3K27 CBX7 ВC . 2 E H2 CB H3K27 24 5637 •n• E H2 CB H3K27 3 BC GEIA (F. 2). M ŝ Е H2 m (F 80 j 7. n 🕈 5). E H2 0.2882, P = 0.0095, n = 80 (F. BC (1). M 🕁 Н3К27 3 ЪС CB 7 r = -0.2764, P = 0.0131, n = 80 (F_• .



J. • .



E H2 • m (G K126) F. 1). I 4 С**В**). 14 7 • n nn. , E • CB 7 (F. **2**9-۶ BC. m n E H2 m

CBX7 all **E**c AK 1B10, CB 7 99EE _ BC c ¶ É а 4 • E BC . m Κ 15. ٩. . Į •• n BC C 🖁 7 fi • m . . . • . . .

. 1). • • - CB 7 BC ---------**1000** BC (5637), G E214886). 3 G (KEGG) 5637 20 CB 7 **20**. 20 È (G EA) ⊷ C§ 5637 7 F P < 0.001) (= 1.700). 5637 FGFR3. RB1, CXCL8 (. 2). F, FGF 3, Į nn. F. 2). Δ_ : 30 (G E185630) 786 FGF 3 FGF 3 **m** m FGF 3 $(786 \cdot$ ACH) (F. . 🔒 BC (, 24, 5637 J82 3). • CB 7 20 <u>ກ</u> ____ FGF 3 5637, 24 . 3 , J82 F₀. ₿.). I . . . m* î۵, 5637, 24 FGF 3 (F• 3 ,). B FGF fi 20 (FGF 1-4) CB nn. FGF 1, FGF 2, FGF 4 24 ,24 . 3 FGF 3), . Т CB 7 (G E151899) 26, FGFR3 (F. . 3). î۵, -m 🐓 CB 7j * m* –). M 🚠 FGFR3 (F 3 **m** 30 FGF 3 7 • 'n nn. BC IHC r = -0.3039, m î٩. P = 0.0061, n = 80) (F_• . 3, CB 7 4 . m BC. M FGF 3 80 M,'A î۵, FGF 3 FGF 3 5). −m∮ - 10 20 20 C1) 15. **1**0 1 4 7 FGF 3 C1-, î۵, 100 4

H2A 🖟 5637 4165 30 3) H2AK119 7 FGFR3 3.).M CB 7 n FGFR3 • CB 7 FĠF 3 BĆ C1-, -----208.4 h٨.

FGF 3 G, î۵, BC 27, 28, 7 CB BC m. CCK-8 m R m î۵, **10**1 BC 'n CB 7 (F. **4**). 24 20 20 m 24 nn. CB FGF 3 BC.

CBX7 ୁନ୍କମିEBCc ୁକୁ ବହୁ ବହୁ FGFR3-PI3K-AKT ୩.E a aç Aa

CB 7-<u>^</u> -fh m 🐓 🦉 -10 CB (786-17. KEGG m **CB** 7 5 (F.). M . <u>مە</u> G EA I3K-AK, (786-) F. (5637) (F .4). . . BC C FGF 3, J82 • FGF 3) (5637 - AK、(F. . 5 I3K-AK, h٨. 29 I CB 7 -20 20 5637 I3K-AK, , 24 . 5-,). M/-___ (F. . AK. n ,





(MK2206) 👔 • m 14 în:∦ вс Į î۵, m m \mathbf{n} 30 7 BC •, (F. 5 • . I3K-AK - ' • . 🖌 m FGF 3 m 9 4 4 m 9 F. . 4'). **у** ІЗК–АК, m'y m (,, • . 4 • 20

CB 7 FGF 3 . <u>____</u> 30 î۵, AK, BC . **5**). F (F. 4 . ñ nn. ŝ 3 I3K-AK, (Fo. 5)). (Fo. 5)). (Fo. 6) BC 9 m / C 7 m m CB 7-FGF 3 . •1 BC • . (F. . <mark>5</mark>). 4

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Fig. 5 CBX7 is a 4 EBC c a a ; FGFR3–PI3K–AKI E a a ; is FGFR3–PI3K–AKI E a a ; is a ; is a 4 EBC c a a ; is a 4 EBC c a a ; is a 4 EFR3–PI3K–AKI E a a ; is a is a 5 EGFR3–PI3K–AKI E a a ; is a 5 EGFR3–A EG

T CBX7-FGFR3 a¶ É i a¶ É i a¶ É i a¶ É i a C E i a i a i a i a

BC . 5 AK.) m m FGF 31 3 ŘΓ 32. CB 7 3 FGF 1 IC50 GF 3 5637 24 IC50 C BC (F. 6 (F. В BC 0 7 24 CB 200 20 10 ----- ⁶ 5). . . BC FGF 3 (MK2206) IC50 5637 24 (F. 6• FGF 3 fi IC50 206 •^ FGF 3 MK2206 5637 24 7-FGF 3-F. . 5). . BC • m AK. m R FGF 3 ŝ E H2 -AK nn. BC • E H2 4 -AK, BC FGF (. 3 nn. F. . 5), FGF 3 î۵. E Ĥ2 -AK 20

DISCUSSION

35 FGE BC 36. BC 37 FG 3 3 RC 208 BC FGF 3 -74 42 FGF 3 43 F6 **20** - 4 3 GF 44 . I 4 3 BC 3 BC. FGF 17.H HMGA1 CBX7• CB 46 nn. \mathbf{n} **~**^ , CB 7 M -182, -183, _9 fi m î۵, D M 3 ЪС 15 m E H2-H3K27 CB BC F26 CB 2---

FGF 3



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BC

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CONCLUSIONS

 C_{m} , m, q, C_{B} , 7, m, F_{C} , B_{C} , B_{C} , C_{B} , 7, m, E, H_{2} , C_{B} , 7, m, T_{m} , T_{m} , T

DATA AVAILABILITY

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- 52. MF_{r} A, K, E = B MF_{r} M^{-1} M^{-1} M
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AUTHOR CONTRIBUTIONS

J: gmman; L: gmman;H:mme.emplitude.geer .eem,

FUNDING

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COMPETING INTERESTS

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

CONSENT TO PUBLISH

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ADDITIONAL INFORMATION

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