Crosslinked chromatin complex



Figure S1. A modified R3C method to detect the chromatin DNA-interacted RNAs

IRAIN lncRNA sequence (5366 bp):

(TAGCAAGATATCAGCTCGTATGCCGTCTTCTGGGGG)

caqcctttctqaattqccccqqtqatqqqqccatacaacctccqctqcctccttccccqcctcactcqtqaaqqctcaqtcqtqattttttcaaagttaatcqqcaccacctqcataccctcqqcaaccattactcaccacaccqccctcaccqttcccaqtcccaqttctqcqacatttaaacttttaatcggggggggttctcgctccccgcatccccgcgcttccctactaacccccgacaccaccaaaaacaaaagctatcagattgcaaaagacagcgaagctccqcqctcqcaaaacaccacccctccccqcqccqccqccqccqccqccqccqccaaaccacaqcqtacqacacctctcqccaqqqqacqqqctct atgcggccctagtacccctccatcccccggccccgggagaaactgggagaccatcccagagccctctgaactggggacccagtggcgctccccggaaggetecceactgeccggtcagccccagcgggagacgcggtgcggcccaggggtgctgtcgctgctgccgccgccgcaggggatcagcgctgtgtgcgcctagccgggaaacacggctgggctgtcaggacggagaaagagaaaagcccttcccgcgcgggggatgcgcggagccaggggcccgcgggggctccag tttcaaacccggagaggcaggaagggggggaaaactgcaaagaaggggggcaaagcccaaatctgcctaggcgaggaaaaacaagcccggccctggcc gcgcgccgtggagctgccccccgcgcgggagggggcgtggagggcgcggggg<mark>GGATCC</mark>ggggagcgggggccgagggtctgcgagggccggggccggggccggggccg $\label{eq:constraint} eggagttaatget \\ \underline{cggagttaatget} \\ \underline{cggagttaatget} \\ \underline{cggaggttaatget} \\ \underline{cggagttaatget} \\ \underline{cggagttaatget} \\ \underline{cggagttaatget} \\ \underline{cggagttaatget} \\ \underline{cggaggttaatget} \\ \underline{cggaggttaa$ ccccccccaggctactacgccggggcactttcacgccaggctggggtgcccgcggcgttgcgaccgtggagcccggagtttgggggctcagggggagcactcgggatcagcggctactgcggaaacccacccgcacctgtctcgggtcctcccaggcacgttcctcttgcttcgtttgctacgtaagtgactgga a a c c a g t a c c g a c c c t a a g t c t c c g c g g t t g t t t c t t g a a t g t g t g t t t c c c c a a g c g a g a c t c c c c t a g g a c t g c c a t c t a t c c c c a a g c g a g a c t c c c c t a g g a c t g c c a t c t a t c c c c a a g c g a g a c t c c c c t a g g a c t g c c a t c t a a t c c c c a a g c g a g a c t c c c c t a g g a c t g c c a t c t a a t c c c c a a g c g a g a c t c c c c t a g g a c t g c c a t c t a a t c c c c a a g c g a g a c t c c c c t a g g a c t g c c a t c t a a t c c c c a a g c g a g a c t c c c c t a g g a c t g c c a t c t a a t c c c c a a g c g a g a c t c c c c t a g g a c t g c c a t c t a a t c c c c a a g c g a g a c t c c c c t a g g a c t g c c a t c t a a t c c c c a a a g c g a g a c t c c c c t a g g a c t g c c a t c t a a t c c c c c a a a g c g a g a c t c c c c t a g g a c t g c c a t c t a a t c c c c c a a g c g a c t g c c a t c t a a t c c c c c a a g c g a c t g c c a t c t a a t c c c c c a a g c g a c t g c c a t c t a a t c c c c c a a g c g a g c t g c c a t c t a a t c c c c c a a g c g a g c t g c c a t c t a a t c c c c c a a g c c a t c c c c a a g c c a t c t a a t c c c c a a g c c a t c c c c a a g c c a t c c c c a a g c c a t c c c c a a g c c a t c c c c c a a g c c a t c c c c a a g c c a t c c c c a a g c c a t c c c c c a a a g c c a t c c c c a a c c a c a t c agaataaatgctgcggagaccaggtcctcaaagagggaaaccagcccagcagtggcaggagagaggagtttgaaatacgtggacttttacaaacagtgaactagtaacagtgaaccagtgaaccagtgaaccagtgaaccagtgaactaattetaaaataettetgeattagaacgtgtatceategttegtaaataattttttaagagetgaaaacaagteaaaagetateataacggaaaettaatttaacagtgaaataaatttattagaatcttaaaatgtattatttaaaaattaggcactacacatgaagaattaaagtccagtctactaatttttaaatatttettaagttetetgeatgaggttggtettgatteetgeagateeactetggagttaaatgeaaaggaatattgatatataattteattata ${\tt cttgatttcagaatttttaatacatacttgtaagacaaaaatttagagctgatttttaaaaggctagtgctaatataaaaatcttcaaatactaccca$ atqtatttttaqtattaqtaataaatatqcctqtttatttqtccccaaqaacataaaqaqqtctataqaatttttaaatqtatataqqttqttqtaqt caatcg tatta agttatttta aacag tg aagtg gg ag atg tatcattatat ag ctta atatttag gg aa aa aa ag ga acaa aa atttag gttg tc a construction of the set of thtgaaataaaatcatgtagacaaaaaaaaaaa

Figure S2. IRAIN lncRNA sequence determined by 5'-racing



Figure S3. Fully methylated IRAIN promoter in K562 cells



B. IGF1R/IRAIN preRNAs and RNAs



Figure S4. Chromatin-bound RNA in a-amanitin treated Kg-1 cells



Fig.S5 Active chromatin marker H3K4Me in the IGF1R promoter and the enhancer



Figure S6. Upregulation of IRAIN lncRNA by Ara-C

A. IRAIN overexpression



Figure S7. IGF1R expression in IRAIN overexpressed and knocked-down cells



Figure S8. Biallelic expression of the IGF1R sense coding RNA





B. The *Igf2r/Airn* imprinting locus



Figure S9. Allelic expression of the human *IRAIN/IGF1R* locus and the mosue *Igf1r/Airn* locus