

Supplementary Information for

**Homoharringtonine deregulates *MYC* transcriptional expression by directly binding NF- $\kappa$ B repressing factor**

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Supplementary text  
Figs. S1 to S17  
Tables S1 to S2  
References for SI reference citations

**Other supplementary materials for this manuscript include the following:**

## **Supplementary Information Text**

### **Supplementary Materials and Methods**

#### **Cell assays**

The Kasumi-1, NB4, HL-60, U937, and THP-1 cells were cultured in RPMI 1640 plus 10% FBS (GIBCO). SKNO-1 cells were maintained in RPMI 1640 plus 20% FBS supplemented with 10  $\mu\text{g/L}$  GM-CSF (R&D).

Cell Counting Kit-8 for detecting cell proliferation was purchased from Dojindo Laboratories. PE-Annexin V Apoptosis Detection Kit I for detecting cell apoptosis and APC BrdU Flow Kits for conducting cell cycle assays were purchased from BD Biosciences. Experiments were conducted according to the manufacturer's instructions.

#### **Microarray and bioinformatics analyses**

For investigating HHT-modulated gene expression, total RNA was extracted using TRIzol Reagent (Life Technologies) following the manufacturer's instructions. The Affymetrix Human U133 Plus 2.0 Chip was used for microarray detection. Slides were scanned with a GeneChip® Scanner 3000 and Command Console Software 3.1 (Affymetrix) with default settings.

For ensuring the highest possible level of data quality, rigorous quality control procedures were implemented on microarray datasets before expression values were generated. The raw data have been deposited in the Gene Expression Omnibus database and are accessible through GEO series number GSE121175.

Microarray data processing was performed using R 3.1.3 and Bioconductor packages. First, raw CEL files were normalized and background-adjusted using Robust Multichip Average algorithm with the Affymetrix package. Then, the k-nearest neighbor algorithm within the impute package was applied for missing value imputation. Differential expression was assessed using the linear

model for microarray data package, a modified t-test that incorporates BH multiple hypothesis correction method. For improving the reliability of differentially expressed genes, the probe sets of the genes were defined as significantly differentially expressed probe sets when the adjusted  $p < 0.01$  and fold changes  $> 2$  between two comparison groups, according to Micro Array Quality Control project recommendations. Gene Set Enrichment Analysis (GSEA) was performed using GSEA software on probe set normalized data. Predefined gene sets were downloaded from the GSEA Molecular Signatures Database (<http://software.broadinstitute.org/gsea/msigdb/index.jsp>). Significantly over- or underrepresented gene sets were returned by GSEA, showing an  $ES < 0$ ,  $p < 0.05$ , and  $FDR < 0.05$  when 1,000 permutations of the gene-set labels were used.

#### **ESI-Q-TOF mass spectrometry and streptavidin (SA) agarose affinity assay**

Biotin-labeled HHT (bio-HHT) was provided by WuXi PharmaTech. For detecting HHT-binding proteins,  $1 \times 10^8$  Kasumi-1 cells were lysed with RIPA buffer (50 mM Tris-HCl, pH 8.0, 150 mM NaCl, 1% NP-40, 0.25% sodium deoxycholate) and treated with 100 ng/mL bio-HHT or biotin (control) overnight. Streptavidin (SA) agarose beads (Thermo) were used to enrich biotin-HHT or biotin-binding proteins. Eluted proteins were separated by SDS-PAGE and visualized by Fast Silver Stain Kit (Beyotime). The entire protein gel lanes were excised and cut into eight slices according to the protein marker: slice 1, proteins exceeding 100 kDa; slice 2, proteins ranging from 95 kDa to 100 kDa; slice 3, proteins ranging from 72 kDa to 95 kDa; slice 4, proteins ranging from 55 kDa to 72 kDa; slice 5, proteins ranging from 43 kDa to 55 kDa; slice 6, proteins ranging from 34 kDa to 43 kDa; slice 7, proteins ranging from 26 kDa to 34 kDa; and slice 8, proteins below 26 kDa. Every gel slice was subjected to in-gel digestion with trypsin.<sup>21</sup> The resulting tryptic peptides were extracted and subjected to electrospray ionization quadrupole time-of-flight (ESI-Q-TOF) mass spectrometry (MS).<sup>22</sup> MS full scans were acquired in Data Analysis (Bruker Daltonics, Bremen, Germany). Peptides were identified from MS/MS spectra by searching against SwissProt database (2015\_04) using the Mascot search algorithm<sup>23</sup>

(<http://www.matrixscience.com>). Among 2,095 prey proteins detected in the bio-HHT group, 1,941 proteins were removed as non-specific binding proteins by using a set of stringent procedures (Supplementary Table 1). Only 154 proteins were considered as potentially enriched in the bio-HHT group. Then, we focused HHT-binding protein study on potential candidates related to *MYC* regulation. The ingenuity pathway analysis (IPA) database was used to select the candidate proteins.

For verifying the interaction of SRC, STAT1, and NKRF proteins with HHT, Kasumi-1 cells were treated with 100 ng/mL biotin-HHT for 6 h and then lysed with RIPA buffer. SA agarose beads were added in cell lysates to bind biotin-HHT binding proteins. The eluted proteins were used to perform Western blot assay, and antibodies of anti-SRC (Cell Signaling), anti-STAT1 (Cell Signaling), and anti-NKRF (Abcam) were used for subsequent immunoblots.

### **Plasmid construction**

For mapping HHT-binding domain in NKRF, the NKRF full-length cDNA was cloned into a pLVX-Puro vector (Clontech), and three truncated cDNAs were cloned into a pFLAG-cmv4 vector (Clontech). All constructed plasmids were transfected into HEK 293T cells as previously described.<sup>1</sup>

For constructing the NKRF deletion, the HA-tagged NKRF full-length plasmid was used as template. The QuikChange® II XL Site-Directed Mutagenesis Kit (Agilent) was used for HA-NKRF- $\Delta$ DSRM1 and HA-NKRF- $\Delta$ DSRM2 plasmid construction according to the manufacturer's instructions.

For constructing NKRF point mutants, the HA-tagged NKRF full-length plasmid was used as template to identify key amino acids involved in HHT binding. The Quick-Fusion Cloning Kit (Selleck) was used to construct NKRF-L476A, NKRF-R477A, NKRF-W478A, NKRF-K479A, NKRF-C480A, and NKRF-K479AC480A plasmids according to the manufacturer's instructions.

For NKRF knockdown in Kasumi-1 cells, pLVX-shRNA1 (Clontech) was used, and transduced cells were selected with 1.0 µg/mL puromycin. A scramble shRNA was used as control for off-target effects of shRNA. The primer sequences are listed in Supplementary Table 2.

### **Bio-layer interferometry (BLI) assay**

The binding affinities of HHT and NKRF proteins were determined using ForteBio Octet RED96 equipped with a SA sensor as previously described.<sup>2</sup> Biotin-HHT (100 µg/mL) was immobilized on SA-coated biosensor tips (ForteBio #18-5019). Bovine serum albumin (BSA) was used as a negative control. The experiments were conducted at room temperature in binding buffer (50 mM Tris-HCl, 150 mM NaCl, 2 mM DTT, 10% Glycerol, pH 7.5, 0.02% Tween-20), and biosensor tips were immersed into wells containing purified NKRF protein within a concentration range of 5-100 µg/mL. Each data set was fitted globally to 1:1 interaction model (ForteBio) to determine the kinetic parameters  $K_{on}$  and  $K_{off}$ . The apparent affinities ( $K_D$ ) were then calculated as a ratio ( $K_{off}/K_{on}$ ) of these rate constants. The recombinant His6-NKRF full-length protein, His6-NKRF-DSRM1 domain, and His6-NKRF-DSRM2 domain were expressed and purified by Shanghai Wanshenghaotian Biotechnology Inc.

### **Real-Time q-PCR (RT-qPCR).**

For mRNA expression analysis of *KIT*, *MYC*, *BAX*, and *CDK4* in the cell lines, RT-qPCR was performed with SYBR green (QIAGEN).  $\Delta CT$  were obtained by normalizing the CT values of the *GAPDH* gene.

To evaluate the mRNA level of *KIT* and *MYC* in AML patients, the mononuclear cells of bone marrow were isolated using Ficoll solution, and the total RNA was extracted using TRIzol Reagent (Life Technologies) following the manufacturer's instructions.  $\Delta CT$  values were obtained by normalizing the CT values of the *ABL1* gene. The primer sequences are listed in Supplementary Table 2.

### **Chromatin immunoprecipitation (ChIP)**

To determine the binding of p65 to *MYC* gene promoter, ChIP-IT High Sensitivity Kit (Active motif), and anti-p65 (Cell Signaling) were used in the chromatin immunoprecipitation (ChIP) assays according to the manufacturer's standard protocol. *MYC* DNA was quantified using real-time PCR with SYBR green (QIAGEN).

### **Nuclear and cytosolic fractionation, immunoprecipitation**

To detect the translocation of NKRF and p65 proteins between nucleus and cytoplasm under the treatment of HHT in TNF- $\alpha$  simulated Kasumi-1 cells, 20nM HHT was added 1 h prior to stimulation by 100 ng/ml TNF- $\alpha$  (for p65 activation) for 4 h. The nuclear and cytoplasmic proteins of Kasumi-1 cells were fractionated using the Qproteome Nuclear Protein Kit (QIAGEN). Western blotting was performed as previously described with NKRF (Abcam) and p65 (Cell Signaling) antibodies.<sup>3</sup>

For mapping the direct binding sites of NKRF protein to HHT, 293T cells transfected with different mutant constructs were incubated with bio-HHT for 12 h. Extracts were immunoprecipitated with streptavidin agarose resin for 4 h.

To detect the interaction between NKRF and p65 in the cytoplasm of Kasumi-1 cells, Protein A+G Agarose (Beyotime Institute of Biotechnology) beads pre-coated with p65 were added to the cytoplasmic lysates and incubated at 4 °C overnight. The beads were washed for three times with 1 $\times$  lysis buffer. Western blotting was performed as previously described.<sup>3</sup>

### **Animal model**

The t(8;21) leukemia murine model harboring RUNX1-RUNX1T1 and KIT<sup>N822K</sup> mutation was generated in our institute as described previously.<sup>4</sup> For evaluating the anti-leukemic effect of HHT, 1 $\times$ 10<sup>5</sup> leukemic cells were transplanted into 8-week-old sublethally irradiated recipient

BALB/C mice for treatment. From day 5, mice of indicated group were injected with single drug or drug combination: HHT 0.5 mg/kg per day on days 1-7, Ara-C 50 mg/kg per day on days 1-7, and Doxorubicin (Doxo, Shenzhen Main Luck Pharmaceuticals Inc.) 3mg/kg on days 1-3, or the combination of Ara-C+HHT (1:1 ratio), Ara-C+Doxo (1:1 ratio), Ara-C+HHT+Doxo (1:1:1 ratio). The lifespan of mice was analyzed by Log-rank (Mantel-Cox) test. A *p* value of < 0.05 was considered statistically significant.

To determine the effect of HHT on leukemia-initiating cells (LICs), gradient-descent (10,000, 1,000, or 100 cells) GFP+/Lin-/Sca-1-/c-kit+ bone marrow cells from HHT or vehicle treated t(8;21) leukemia mice were sorted by flow cytometry and injected into sublethally irradiated recipients. The lifespan of mice was analyzed as described above.

Two xenograft mouse models were established by injecting  $1 \times 10^7$  Kasumi-1 cells expressing shSCR or shNKRF into NOD/SCID mice and  $1 \times 10^7$  SKNO-1 cells expressing shSCR or shNKRF into B-NDG mice. The human CD45+ cells in murine PB were monitored by flow cytometry. When the human leukemia cells were detectable (percentage of GFP+ cells > 0.1%), the mice were intravenously injected with HHT (0.5 mg/kg body weight) daily for 7 consecutive days. The lifespan of mice was analyzed as described above.

All BALB/C and NOD/SCID mice for the murine model were obtained from the Shanghai Laboratory Animal Center, Chinese Academy of Sciences, Shanghai. The B-NDG mice were purchased from BIOCYTOGEN, Beijing, China. The animals were housed under specific pathogen-free conditions. Experiments were conducted according to the National Institutes of Health Guide for Care and Use of Laboratory Animals. All statistical analyses were performed using GraphPad Prism 6.0 for Windows (La Jolla, California, USA).

### **Patient samples.**



37 de-novo AML patients enrolled in this study were diagnosed in Shanghai Ruijin Hospital. All patients provided informed consent for sample collection and research in accordance with the Helsinki Declaration.

## Supplementary Figures:

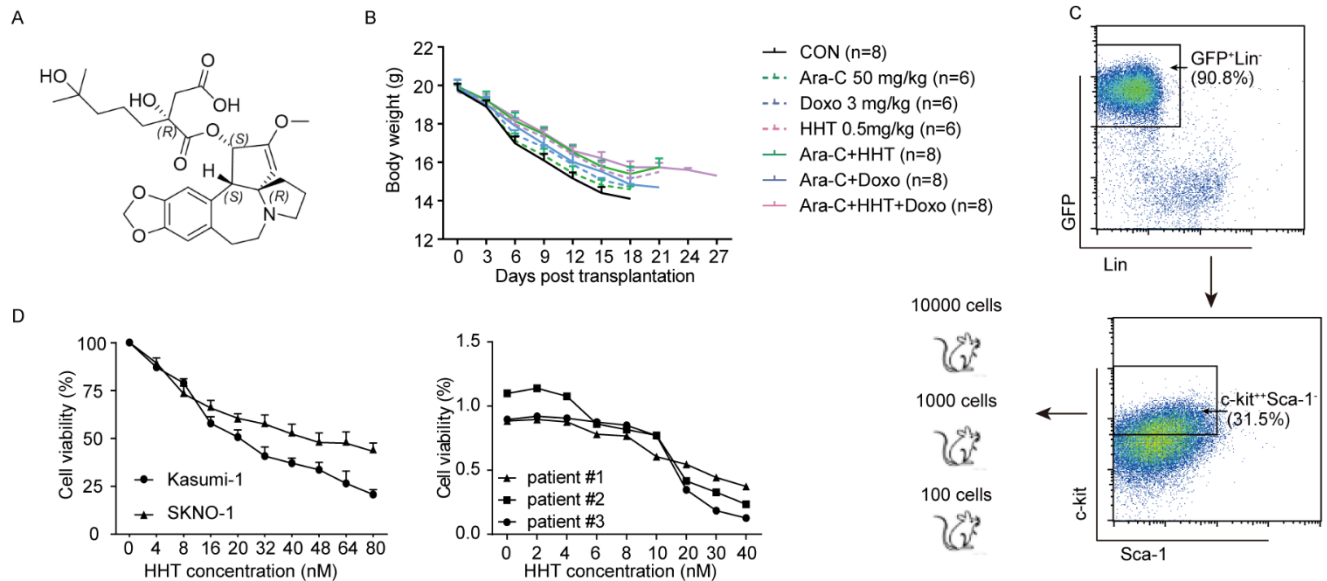
### Figure S1. Therapeutic effect of HHT on leukemia-initiating cells (LICs) in murine leukemia model and *in vitro* culture system of human t(8;21) AML cell lines.

(A) Chemical structure of Homoharringtonine (HHT).

(B) Body weight of RUNX1-RUNX1T1+KIT<sup>N822K</sup> leukemia mice treated with indicated drugs.

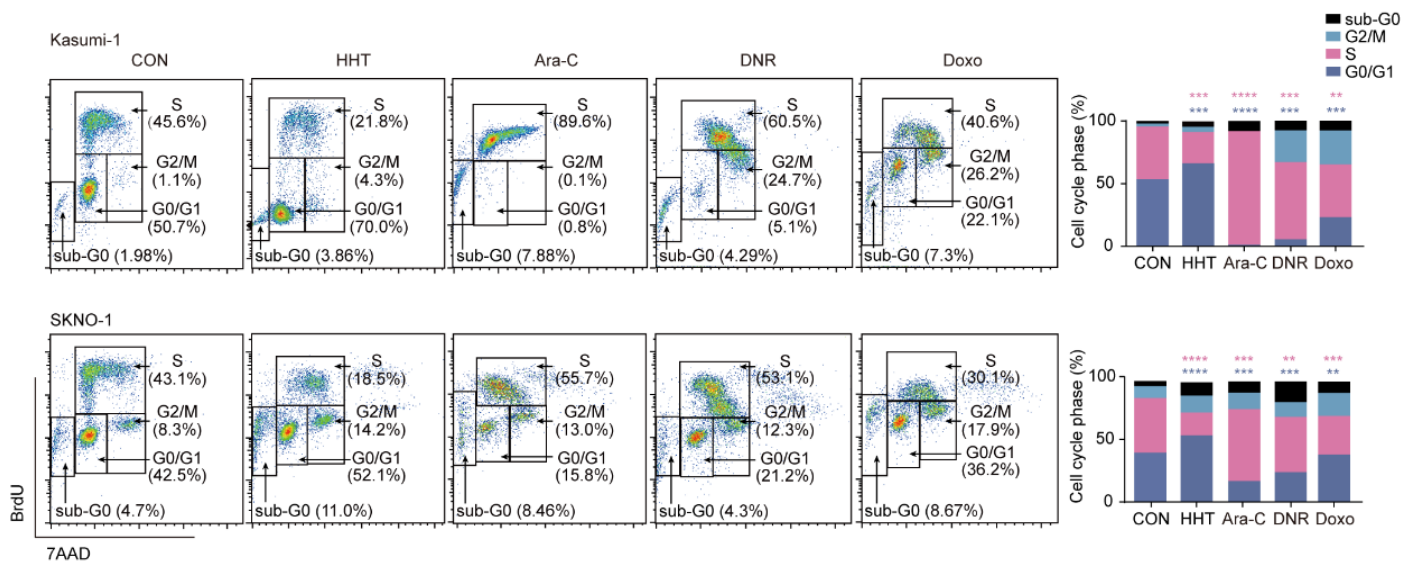
(C) Flow cytometry assay of bone marrow cells from RUNX1-RUNX1T1+KIT<sup>N822K</sup> leukemia mice with indicated markers. GFP<sup>+</sup>/Lin<sup>-</sup> cells were further analyzed using c-Kit and Sca-1 markers. GFP<sup>+</sup>/Lin<sup>-</sup>/Sca-1<sup>-</sup>/c-kit<sup>+</sup> cells (10,000, 1000, 100 cells) which indicated leukemia-initiating cells (LICs) were transplanted into recipient mice.

(D) Cell viability of Kasumi-1, SKNO-1 cells (left panel) and the primary cells from three t(8;21) AML patients (right panel) treated with different doses of HHT.



**Figure S2. HHT induces cell-cycle blockage in Kasumi-1 and SKNO-1 cells.**

Cell-cycle arrest of Kasumi-1 cells was assayed upon treatment with 20 nM HHT, 600 nM Ara-C, 500 nM Doxo and 150 nM DNR for 24 h, respectively (upper panel), while cell-cycle status of SKNO-1 cells was examined after treatment with 40 nM HHT, 600 nM Ara-C, 150 nM DNR and 500 nM Doxo for 24 h, respectively (bottom panel). The percentages of cells in each phase are indicated for distinct compartments in flow cytometry analysis (left panel) and represented in



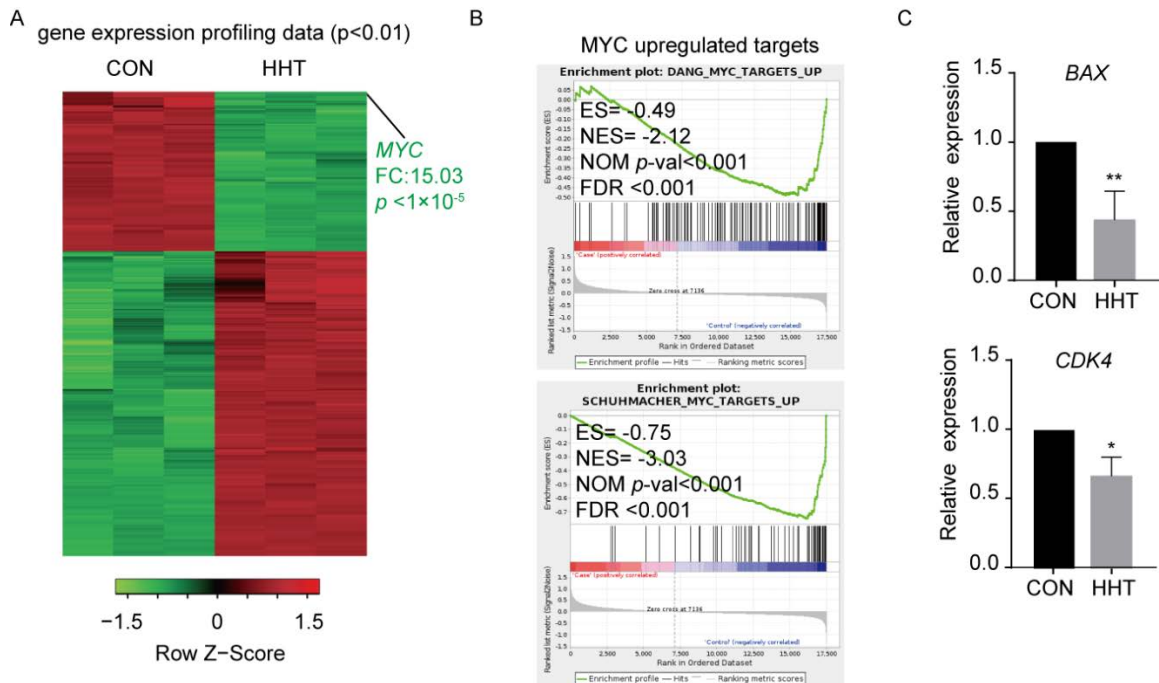
different colors on each column (right panel).

**Figure S3. HHT reduces the expression of MYC-regulated genes.**

(A) Heat map depicting differentially expressed genes altered by HHT. All genes with significantly changed expression level ( $p < 0.01$ ) are included.

(B) GSEA of HHT-induced differentially expressed genes reveals significant correlation with two MYC-upregulated target gene sets. ES, enrichment score; NES, nominal enrichment score; NOM  $p$ -val, nominal  $p$ -value; FDR, false discovery rate.

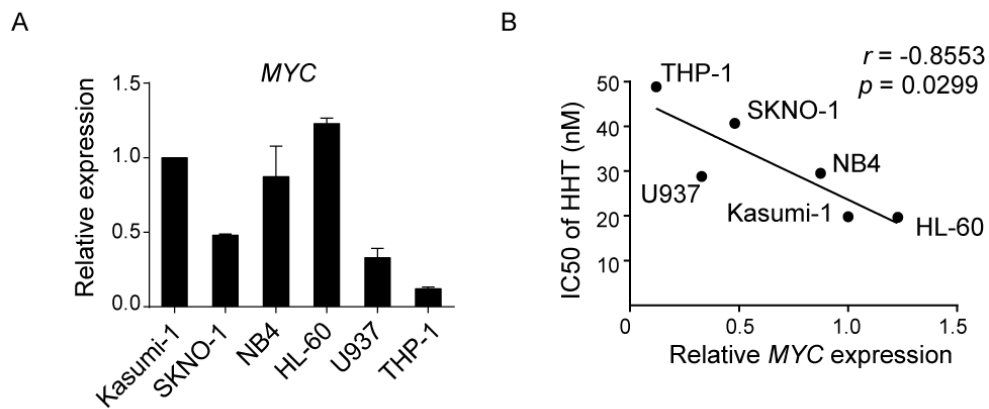
(C) Quantification of *BAX* and *CDK4* expression in Kasumi-1 cells treated with 20 nM HHT for 24h. Bars are mean  $\pm$  SD normalized to *GAPDH* expression, respectively. \* $p < 0.05$ , \*\* $p < 0.01$ .



**Figure S4. Endogenous transcriptional level of *MYC* gene and the sensitivity of HHT in Kasumi-1, SKNO-1, NB4, HL-60, U937 and THP-1 cells.**

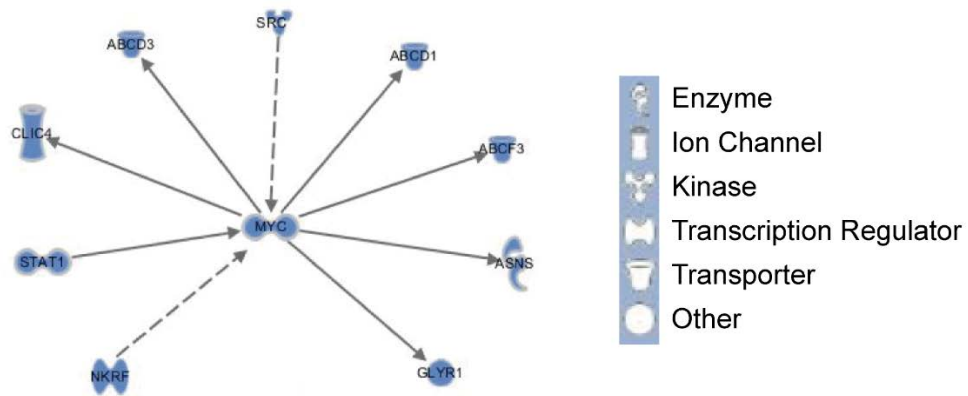
**(A)** Quantification of *MYC* expression in Kasumi-1, SKNO-1, NB4, HL-60, U937 and THP-1 cells. Bars are mean $\pm$ SD normalized to *GAPDH* gene expression.

**(B)** The correlation between *MYC* expression and HHT IC50 of indicated cell lines. The correlation coefficient ( $r$ ) is measured by the Spearman correlation coefficients.



**Figure S5. Identification of NKRF as a direct HHT binding target.**

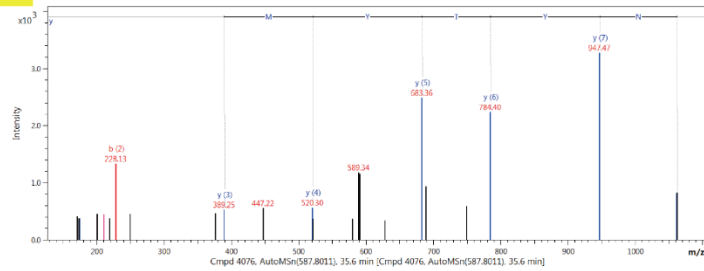
Nine candidate proteins were revealed by ESI-Q-TOF as potential HHT binding proteins which could be associated with *MYC* expression. The network displayed their regulatory relationships. Symbol shapes denoted the type of protein, solid lines indicated the direct interactions, and dashed lines indicated the indirect interactions.



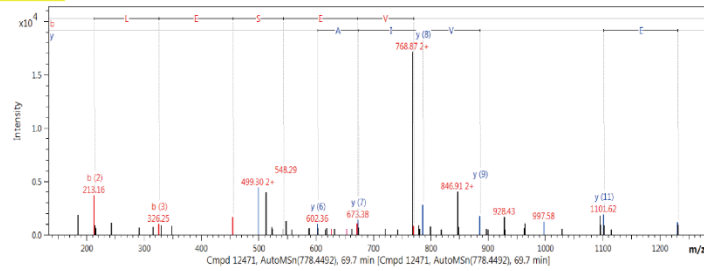
**Figure S6. Identification of direct binding of NKRF by HHT.**

ESI-Q-TOF MS/MS sequencing of two peptides: NYTYML and LESEVIA. These two peptides show a 100% match with the NKRF protein according to NCBI BLAST search (<http://blast.ncbi.nlm.nih.gov/Blast.cgi>).

K.**IN**TYMLTR.C



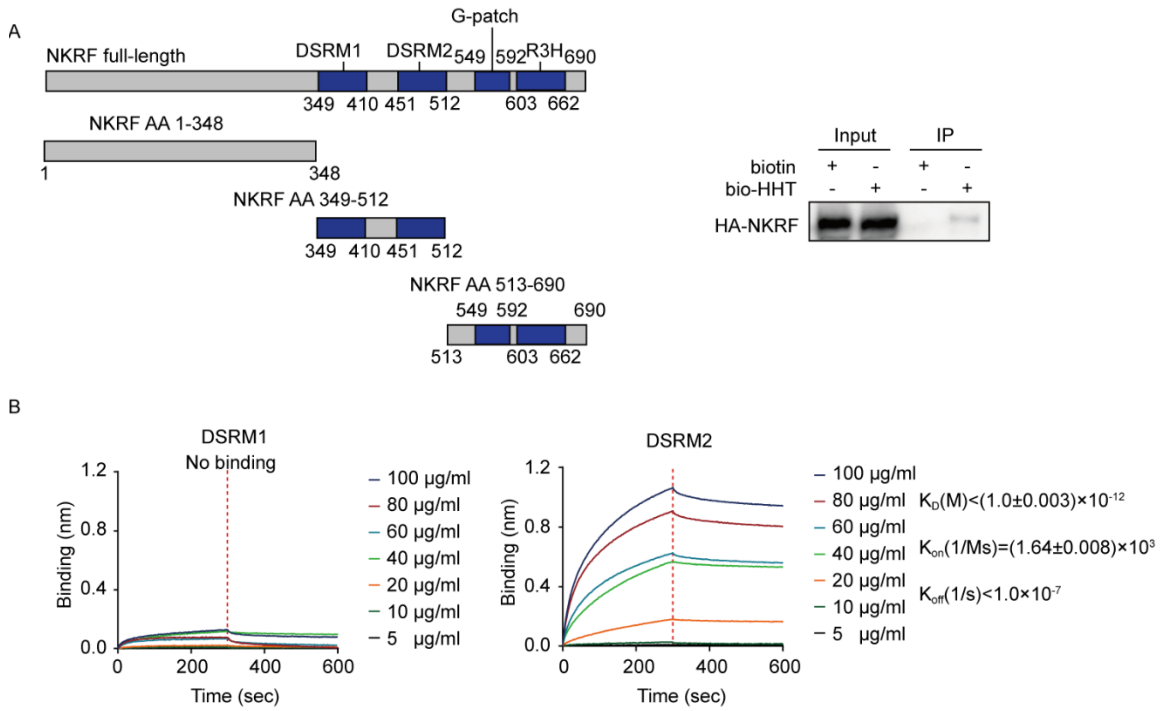
K.**VILESEVIA**EAVGVK.K



**Figure S7. Identification of the binding region of NKRF by HHT.**

**(A)** Schematic representation of the domain structures of the NKRF full-length protein and truncated mutants (left panel). The binding effect between bio-HHT and the HA-tagged full-length NKRF constructs was detected by immunoprecipitation assay (right panel).

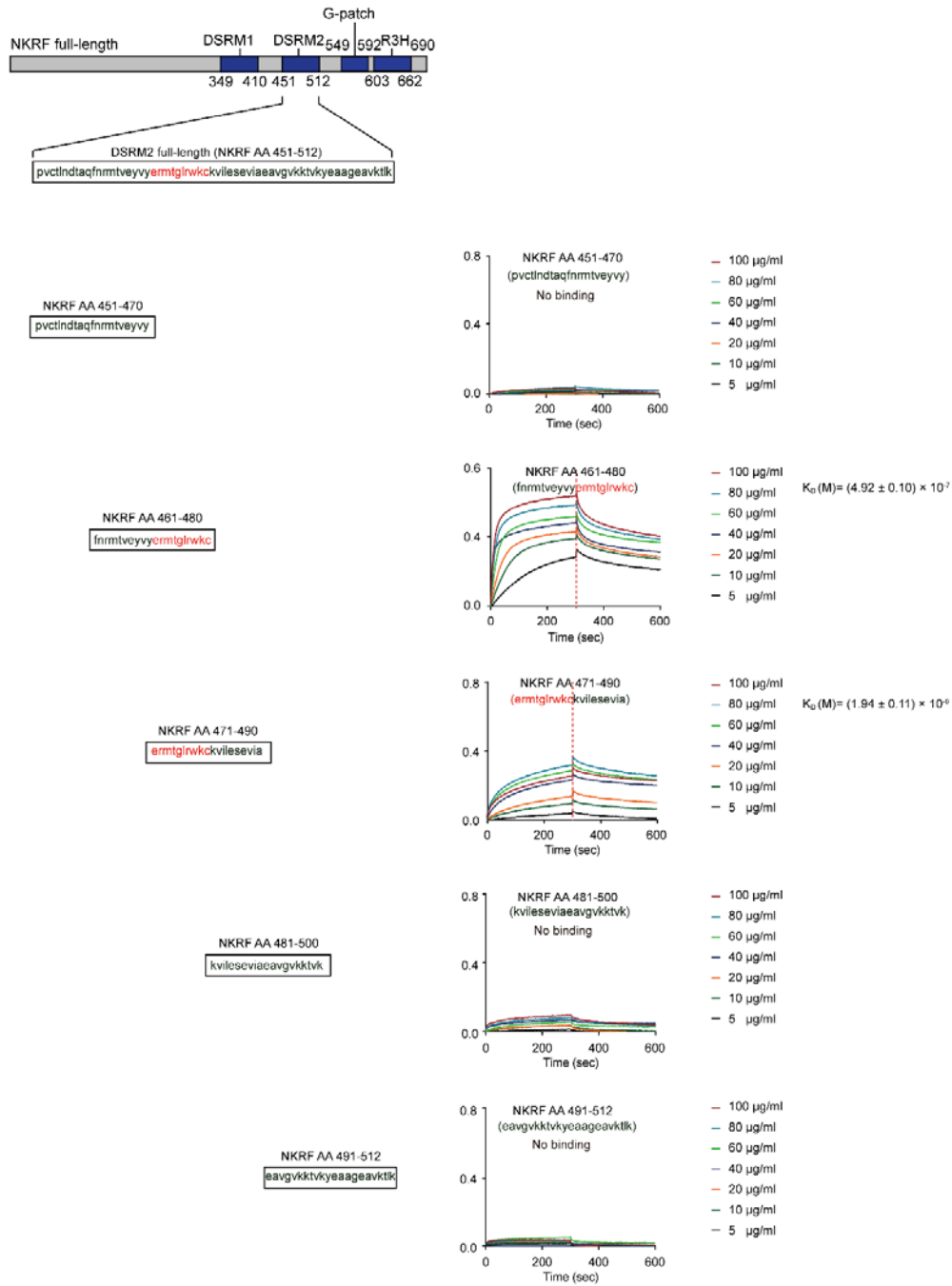
**(B)** BLI analysis of HHT binding affinity to increasing concentrations of 6× His-NKRF-DSRM1 and 6× His-NKRF-DSRM2.





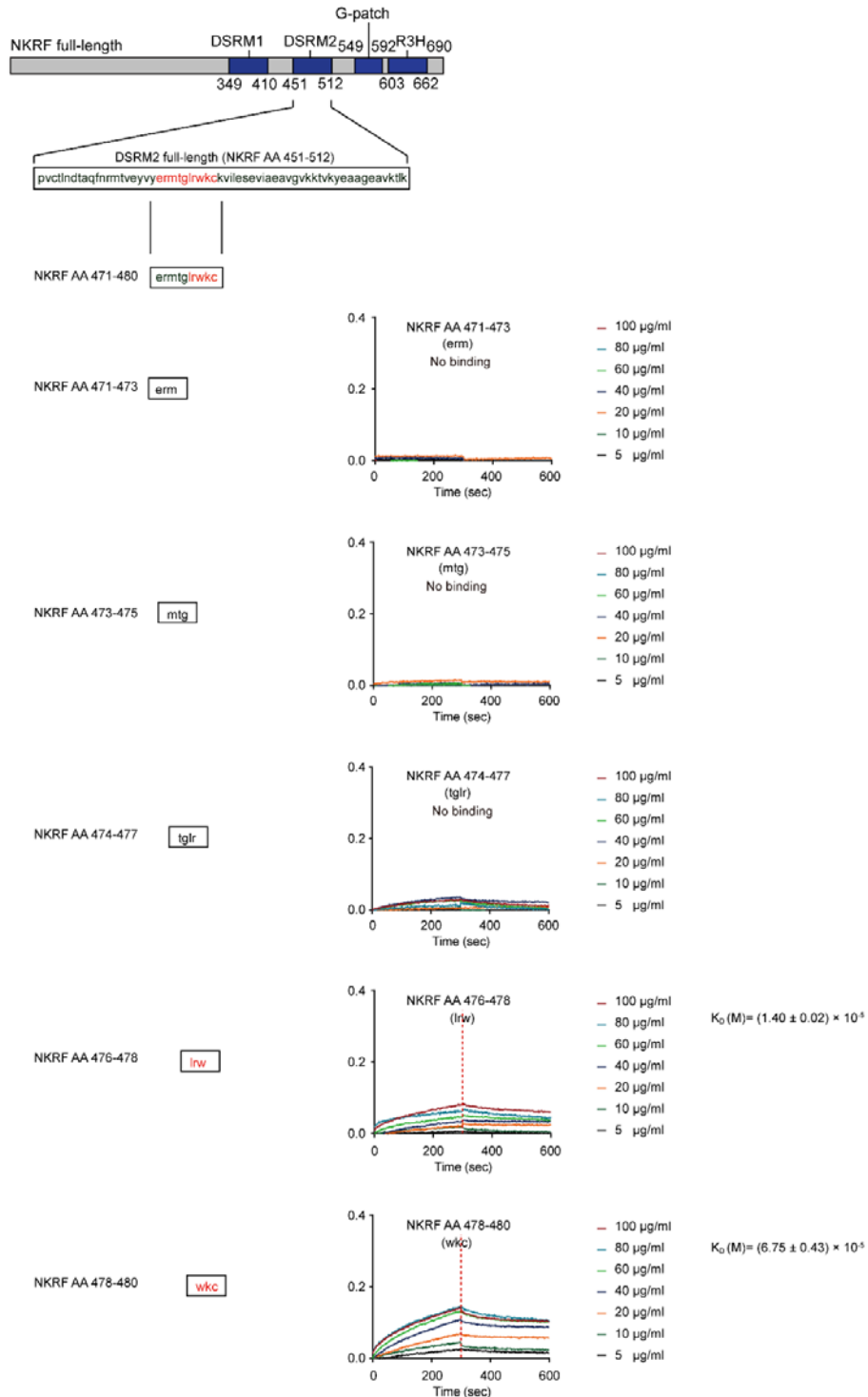
### Figure S8. Mapping of binding motif of NKRF by HHT.

BLI analysis of the binding affinity between HHT to increasing concentrations of NKRF peptides (20-22 amino acids per peptide). The candidate binding amino acids were labelled in red.



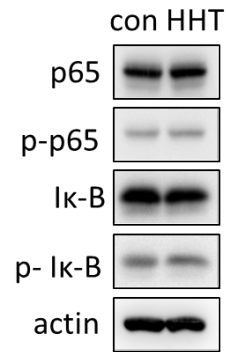
**Figure S9. Identification of binding sites of NKRF by HHT.**

BLI analysis of the binding affinity between HHT to increasing concentrations of NKRF peptides (3-4 amino acids per peptide). The candidate binding amino acids were labelled in red.



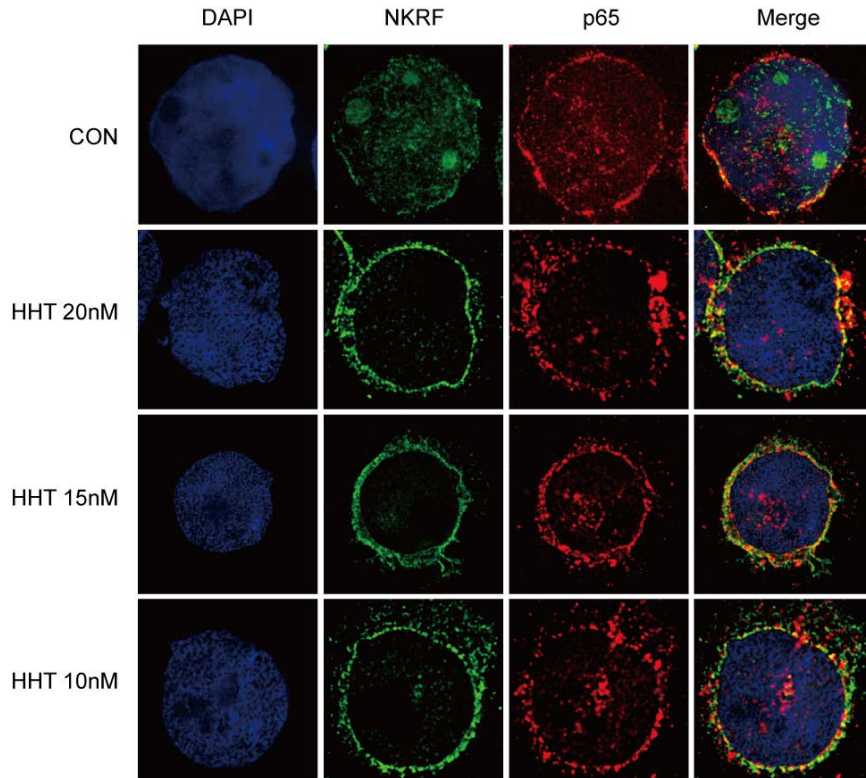
**Figure S10. HHT does not affect the phosphorylation level of p65.**

The protein expression levels of p65, phosphorylated p65, IκB and phosphorylated IκB (the key components of the classical NF-κB pathway) in Kasumi-1 cells treated with 20 nM HHT for 24h.



**Figure S11. HHT could still inhibit p65 translocation at low HHT dosage.**

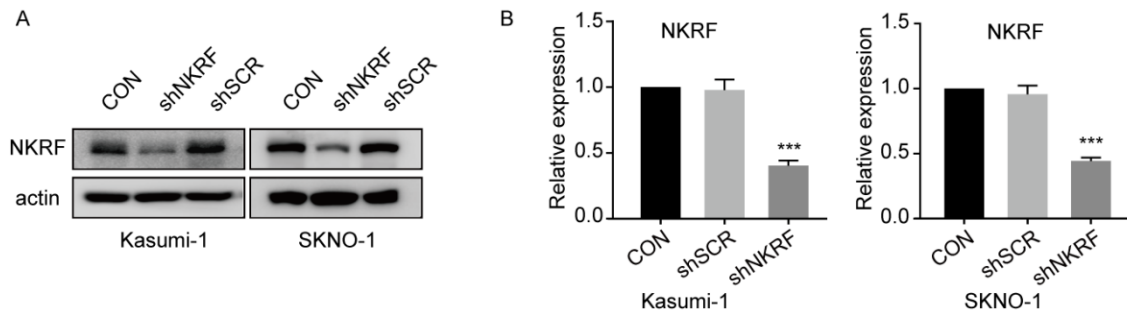
Immunofluorescence staining of NKRF and p65 in TNF- $\alpha$  stimulated Kasumi-1 cells treated with 20 nM, 15 nM, 10 nM HHT as compared to control sample.



**Figure S12. The knockdown effect of *NKRF* expression in *NKRF* shRNA (shNKRF) transfected Kasumi-1 and SKNO-1 cells.**

(A) The efficacy of shNKRF in Kasumi-1 and SKNO-1 cells.

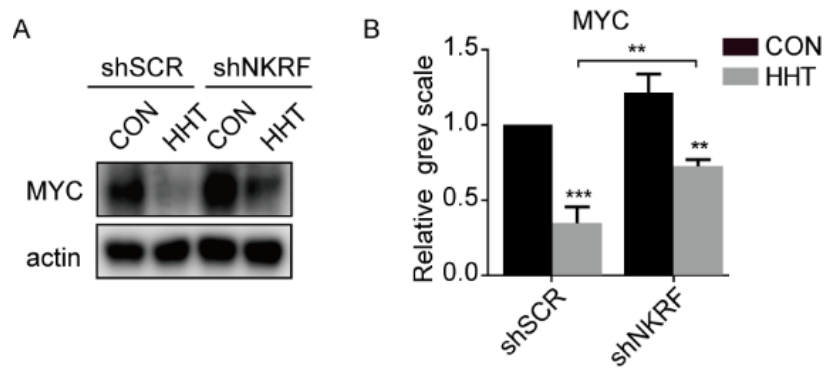
(B) The shNKRF expressing cells showed an approximately 50% decrease in *NKRF* mRNA levels compared with shSCR (a nonspecific scrambled shRNA). Bars are mean  $\pm$  SD normalized to *GAPDH* expression. \*\*\* $p < 0.001$ .



**Figure S13. Quantification of protein levels of MYC in Kasumi-1 shNKRF cells under the treatment with HHT.**

(A) Detection of protein expression levels of MYC in shSCR or shNKRF transfected Kasumi-1 cells treated with 20 nM HHT for 24h.

(B) Quantification of the grey scale of MYC protein bands was based on the data from three independent experiments. The fact that MYC protein level was deeply repressed by HHT in shSCR cells while in NFRF knock-down setting the effect of HHT on MYC protein expression was only partly abrogated suggested HHT may additionally target MYC protein synthesis or stability.



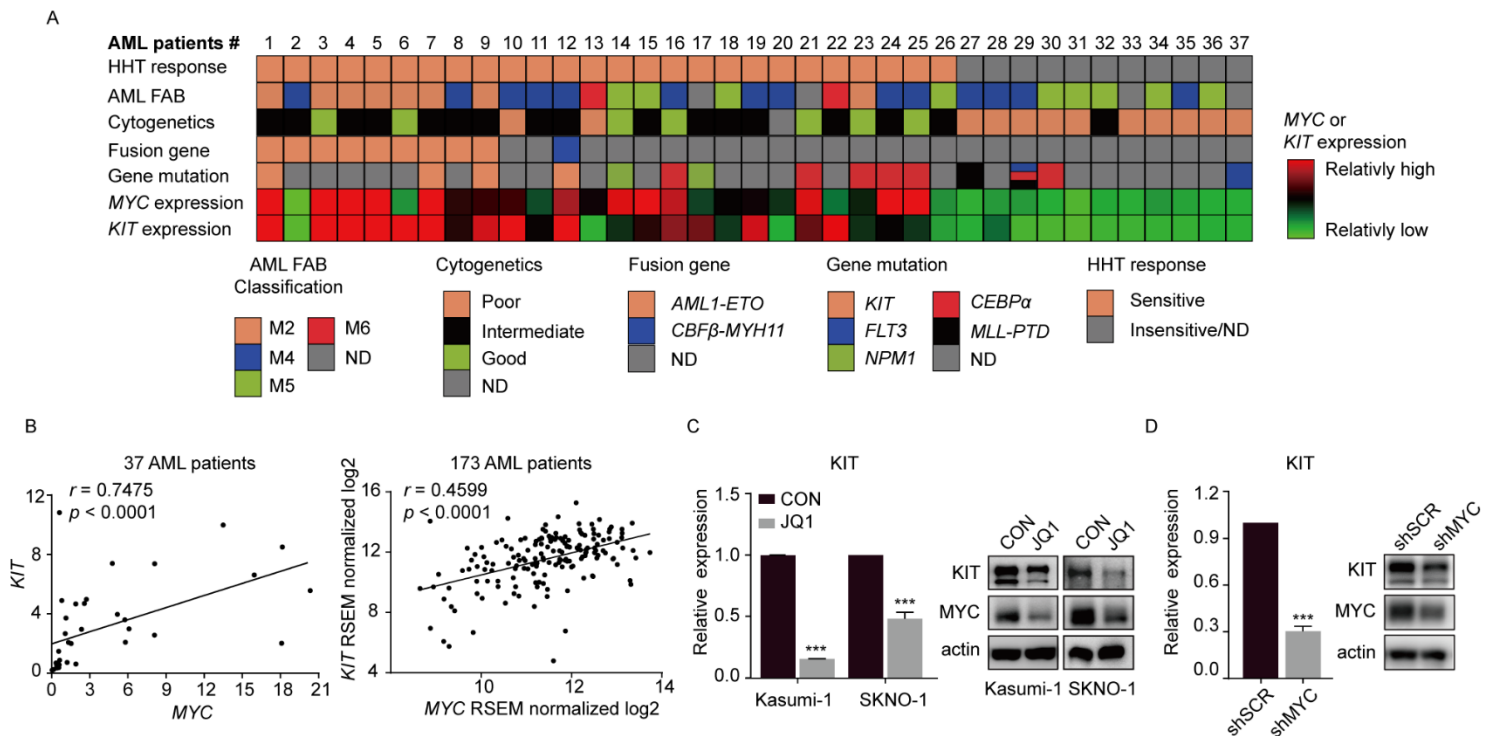
**Figure S14. HHT decreases *KIT* expression in consistence with *MYC* downregulation.**

(A) Clinical parameters and the expression of *MYC* and *KIT* normalized to *ABL1* gene for 37 de-novo AML samples were shown.

(B) The correlation between the expression of *MYC* and *KIT* in 37 primary de-novo AML samples from our clinical center (left panel) and 173 AML samples from TCGA database (right panel). Expression levels were presented as RSEM normalized log2 values of indicated genes. The correlation coefficient ( $r$ ) was measured by the Spearman correlation coefficients.

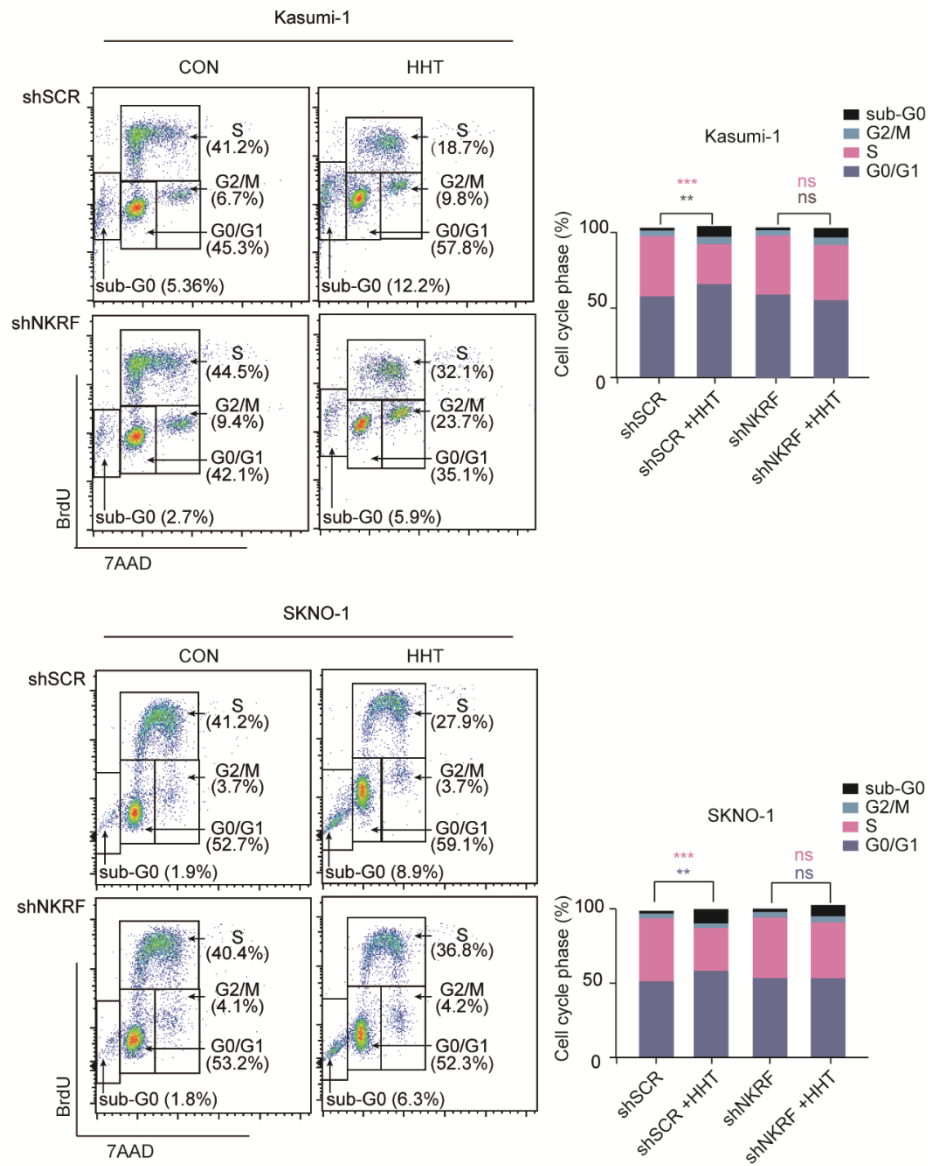
(C) Detection of mRNA and protein expression levels of *KIT* and *MYC* in Kasumi-1 and SKNO-1 cells treated with 200 nM JQ1 for 24 h: *KIT* mRNA expression level was detected with RT-qPCR and normalized to *GAPDH* gene expression (left panel); the protein expression of *MYC* and *KIT* were detected by Western blot (right panel).

(D) Kasumi-1 cells were transfected with shSCR or shMYC lentiviral vectors. *KIT* mRNA expression level was detected by RT-qPCR and normalized to *GAPDH* gene expression (left panel), *MYC* and *KIT* protein expression was detected by Western blot (right panel). \*\*\* $p < 0.001$ .



**Figure S15. NKRF knockdown diminishes HHT-induced cell-cycle blockage.**

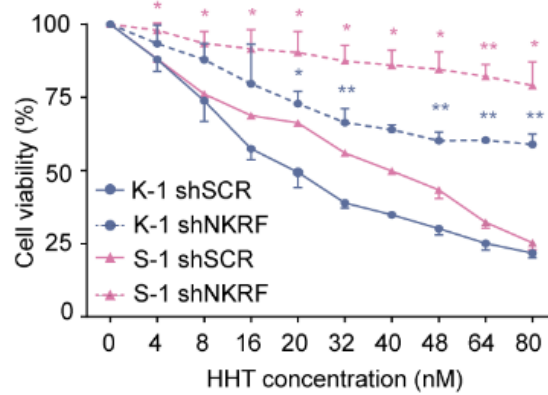
Cell-cycle arrest of shSCR or shNKRF transfected Kasumi-1 cells treated with 20 nM HHT (upper panel), and shSCR or shNKRF transfected SKNO-1 cells treated with 40 nM HHT (bottom panel). The percentages of cells in each phase are indicated.





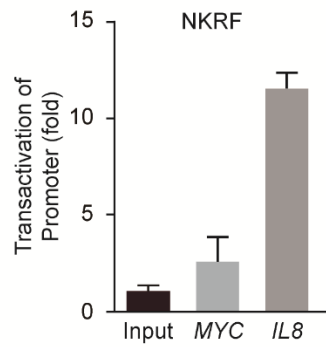
**Figure S16. Anti-leukemia effect of HHT mediated by NKRF *in vitro*.**

Viabilities of shSCR or shNKRF transfected Kasumi-1 (K-1) and SKNO-1 (S-1) cells treated with increasing doses of HHT. The data was based on mean  $\pm$  SEM of three independent experiments.



**Figure S17. NKRF does not directly bind to the promoter of *MYC*.**

ChIP-qPCR analysis of NKRF enriched transactivation region of *MYC* and *IL8* gene. Bars are mean  $\pm$  SD. *IL8* gene, which contains the specific negative regulatory elements on its promoter region, was reported to be a NKRF directly binding gene.<sup>5</sup> Here *IL8* gene was used as a positive control.



**Table S1.** Identification procedures of HHT specific binding proteins detected by ESI-Q-TOF MS/MS. (Uploaded as a separated file)

**Table S2.** Primer sequences used in this work. (Uploaded as a separated file)

## References

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**Table S1. Identification procedures of HHT specific binding proteins detected by ESI-Q-TOF MS/MS.**

<b>total prey proteins in bio-HHT group (2095 proteins)</b>			
<b>prot_acc</b>	<b>prot_score</b>	<b>prot_mass</b>	<b>prot_sequences_sig</b>
MYH9_HUMAN	26838	227646	79
MYH10_HUMAN	3248	229827	25
MYH11_HUMAN	2595	228054	8
MYH14_HUMAN	1278	228701	4
ACACA_HUMAN	9468	267095	79
ACACB_HUMAN	1631	278361	23
SPTB2_HUMAN	3510	275237	54
SPTN2_HUMAN	328	272526	5
SPTB1_HUMAN	60	247171	1
MY18A_HUMAN	3215	234168	39
SPTN1_HUMAN	3014	285163	56
PRKDC_HUMAN	1917	473749	59
MYO1G_HUMAN	1910	117395	30
MYO1D_HUMAN	35	116927	1
PARP1_HUMAN	1676	113811	26
CLH1_HUMAN	1590	193260	32
CLH2_HUMAN	369	189020	8
MYO1F_HUMAN	1589	125507	21
MYO1C_HUMAN	274	122461	9
MYO1E_HUMAN	323	127552	3
MYO1B_HUMAN	90	132928	1
DHX9_HUMAN	1566	142181	25
FAS_HUMAN	1522	275877	41
PYC_HUMAN	1408	130293	24
IQGA1_HUMAN	1267	189761	34
IQGA2_HUMAN	23	181036	2
IQGA3_HUMAN	62	185268	2
PYR1_HUMAN	1125	245167	27
HEAT1_HUMAN	992	244382	30
FLII_HUMAN	955	146142	21
K2C1_HUMAN	944	66170	9
GFAP_HUMAN	108	49907	1
NAT10_HUMAN	829	116569	19
ACTG_HUMAN	675	42108	9
ACTB_HUMAN	628	42052	8
POTEE_HUMAN	381	122882	3
ACTBL_HUMAN	237	42318	3
ACTC_HUMAN	222	42334	3
ACTA_HUMAN	219	42381	2
ACTBM_HUMAN	214	42331	2
POTEI_HUMAN	21	122858	1
K1C10_HUMAN	661	59020	9
TOP2B_HUMAN	636	184122	19
TOP2A_HUMAN	479	175017	15
HNRPU_HUMAN	634	91269	7
BAZ1B_HUMAN	617	172392	17
GCN1L_HUMAN	617	294967	25
FLNB_HUMAN	553	280157	24
FLNA_HUMAN	52	283301	2
FLNC_HUMAN	99	293407	2
IPO7_HUMAN	551	120751	9
IPO8_HUMAN	87	120945	1
U520_HUMAN	538	246006	18
RRP5_HUMAN	529	209939	17
SYIC_HUMAN	523	145718	20
MBB1A_HUMAN	512	149731	9
PRP8_HUMAN	499	274738	19
XPO1_HUMAN	495	124447	15
SMCA5_HUMAN	495	122513	14

SMCA1_HUMAN	137	123211	4
U5S1_HUMAN	479	110336	14
ACTN1_HUMAN	470	103563	11
ACTN4_HUMAN	451	105245	9
ACTN2_HUMAN	151	104358	4
ACTN3_HUMAN	61	103917	3
CNTRL_HUMAN	468	269860	13
FSCN1_HUMAN	459	55123	9
SPB1_HUMAN	455	96898	9
NEB2_HUMAN	448	89309	10
NEB1_HUMAN	79	123552	1
NUCL_HUMAN	441	76625	6
MSH6_HUMAN	438	154514	15
DYHC1_HUMAN	433	534809	20
K22E_HUMAN	430	65678	5
K2C6A_HUMAN	151	60293	3
K2C5_HUMAN	122	62568	2
K22O_HUMAN	90	66370	1
SF3B3_HUMAN	427	136575	11
XPO2_HUMAN	422	111145	12
H2B1B_HUMAN	192	13942	2
H2B1A_HUMAN	106	14159	1
NEK10_HUMAN	47	134145	1
CU129_HUMAN	40	15541	1
LPPRC_HUMAN	407	159003	16
CB072_HUMAN	30	30918	1
UBA1_HUMAN	406	118858	9
ENPL_HUMAN	401	92696	9
SMHD1_HUMAN	373	227942	7
TLN1_HUMAN	354	271766	8
PUR2_HUMAN	352	108953	13
TBA1A_HUMAN	338	50788	6
TBA3C_HUMAN	161	50612	4
TBA4A_HUMAN	108	50634	3
TBA8_HUMAN	42	50746	2
TBA4B_HUMAN	20	27819	1
ACLY_HUMAN	338	121674	10
MATR3_HUMAN	335	95078	4
MYO5A_HUMAN	329	216979	10
MYO5B_HUMAN	44	215135	1
MYO5C_HUMAN	39	203994	1
UT14A_HUMAN	324	88095	7
UT14C_HUMAN	118	87249	3
C1TC_HUMAN	318	102180	10
MCM3_HUMAN	314	91551	7
SYLC_HUMAN	307	135577	12
NOG2_HUMAN	306	83831	6
DOCK2_HUMAN	305	213123	13
DHX30_HUMAN	305	134938	15
TOP1_HUMAN	299	91125	8
TOP1M_HUMAN	91	70398	2
COPA_HUMAN	299	139797	14
AT2A2_HUMAN	297	116336	7
AT2A3_HUMAN	114	115444	1
AT2A1_HUMAN	64	111550	2
H2AY_HUMAN	297	39764	7
H2AW_HUMAN	92	40261	1
RRP12_HUMAN	287	145037	8
NOL6_HUMAN	284	128368	8
RFC1_HUMAN	278	128688	6
TBB5_HUMAN	276	50095	7
TBB4B_HUMAN	255	50255	6
TBB2A_HUMAN	234	50274	5

TBB3_HUMAN	233	50856	4
TBB4A_HUMAN	211	50010	5
TBB1_HUMAN	178	50865	2
CHD4_HUMAN	276	219407	8
CHD5_HUMAN	72	224506	2
CHD3_HUMAN	62	227989	2
WDR3_HUMAN	273	107115	10
UTP20_HUMAN	270	320805	11
SF3B1_HUMAN	268	146479	11
DDX21_HUMAN	268	87804	8
DDX50_HUMAN	87	83084	2
H4_HUMAN	257	11360	2
WDR36_HUMAN	256	106282	10
XPOT_HUMAN	255	111148	5
PO210_HUMAN	249	205895	6
SMC3_HUMAN	248	141853	9
SYEP_HUMAN	247	172080	9
TDIF2_HUMAN	244	84817	6
NOP2_HUMAN	243	89589	5
HS90B_HUMAN	236	83554	8
HS90A_HUMAN	187	85006	4
TRAP1_HUMAN	115	80345	1
HS902_HUMAN	48	39454	2
H90B2_HUMAN	43	44492	1
H90B3_HUMAN	37	68624	3
HS904_HUMAN	19	47796	1
ATAD2_HUMAN	234	159825	10
ESYT1_HUMAN	233	123293	6
PWP2_HUMAN	228	103357	6
GANAB_HUMAN	225	107263	8
NOP14_HUMAN	225	98292	7
NPA1P_HUMAN	220	256508	11
CAND1_HUMAN	218	137999	7
K1C9_HUMAN	218	62255	6
DNLI3_HUMAN	217	114317	8
PELP1_HUMAN	212	120879	7
RPB2_HUMAN	209	135236	5
COPB_HUMAN	207	108214	9
LONM_HUMAN	206	106936	6
NUMA1_HUMAN	205	239199	10
CROCC_HUMAN	204	228787	8
CROL2_HUMAN	31	33656	1
HXK2_HUMAN	203	103739	4
HXK3_HUMAN	47	100616	1
RENT1_HUMAN	202	125578	9
HSP74_HUMAN	201	95127	5
HS105_HUMAN	187	97716	8
HS74L_HUMAN	36	95479	2
CE128_HUMAN	196	128565	5
PERM_HUMAN	188	84784	7
HYOU1_HUMAN	187	111494	7
SP16H_HUMAN	187	120409	10
SUGP2_HUMAN	186	121044	9
KI67_HUMAN	184	360698	6
ILF3_HUMAN	183	95678	5
STRBP_HUMAN	23	74290	1
AT1A1_HUMAN	182	114135	6
AT1A3_HUMAN	113	113102	3
AT1A2_HUMAN	64	113505	2
GELS_HUMAN	179	86043	7
PSMD1_HUMAN	174	106795	3
MCM2_HUMAN	172	102516	7
DSRAD_HUMAN	162	137178	6

UN13D_HUMAN	160	124288	5
XPO5_HUMAN	158	138332	3
EF2_HUMAN	154	96246	7
H15_HUMAN	153	22566	2
SIPA1_HUMAN	152	112821	4
SMC2_HUMAN	152	136085	8
DIAP1_HUMAN	151	141942	7
KIF23_HUMAN	151	111016	6
UHRF1_HUMAN	150	91297	6
SSFA2_HUMAN	149	139554	3
CYTSA_HUMAN	143	124925	7
SMC1A_HUMAN	140	143771	8
NU205_HUMAN	138	230171	5
EF1A1_HUMAN	138	50451	4
EF1A2_HUMAN	31	50780	2
MYPT1_HUMAN	135	115610	5
PP12C_HUMAN	36	85286	1
CP250_HUMAN	134	281880	6
PSA_HUMAN	134	103895	5
PSAL_HUMAN	26	54226	1
SYMC_HUMAN	134	102249	5
CND3_HUMAN	133	115345	3
BOP1_HUMAN	133	84261	5
MSH2_HUMAN	131	105418	4
HNRL1_HUMAN	129	96250	3
HNRL2_HUMAN	129	85622	4
MPRIP_HUMAN	123	117260	7
CEP89_HUMAN	120	89934	1
CEBPZ_HUMAN	118	121526	3
RBM19_HUMAN	116	107722	4
AAAT_HUMAN	114	57018	2
URB2_HUMAN	114	172373	4
PRP6_HUMAN	112	107656	5
SND1_HUMAN	109	102618	4
CND1_HUMAN	108	158508	4
PDS5A_HUMAN	107	152274	2
WDR75_HUMAN	105	95921	4
MCM4_HUMAN	105	97068	4
DPOD1_HUMAN	102	125035	6
MCM6_HUMAN	102	93801	2
EIF3B_HUMAN	102	92823	3
BMS1_HUMAN	101	146571	4
MCCA_HUMAN	99	80935	3
PDIA1_HUMAN	99	57480	3
SYVC_HUMAN	99	141642	4
PCNT_HUMAN	98	380600	4
SYAC_HUMAN	98	107484	4
CHD1L_HUMAN	97	101491	4
EIF3A_HUMAN	97	166867	2
STOM_HUMAN	95	31882	1
RS27A_HUMAN	95	18296	1
COPG1_HUMAN	93	98967	5
COPG2_HUMAN	58	98700	2
NPM_HUMAN	93	32726	2
DDB1_HUMAN	92	128142	4
PYGL_HUMAN	90	97486	3
PYGB_HUMAN	19	97319	1
ALBU_HUMAN	89	71317	2
NOC3L_HUMAN	89	92946	2
TBL3_HUMAN	89	90347	4
NIPBL_HUMAN	88	317907	5
COR1C_HUMAN	88	53899	2
RSF1_HUMAN	87	165260	3



TBCD_HUMAN	84	134283	4
SYNE3_HUMAN	84	112774	1
ELYS_HUMAN	83	254223	3
NOP56_HUMAN	82	66408	2
ARHG2_HUMAN	81	112386	5
HUWE1_HUMAN	80	485523	3
RPB1_HUMAN	79	218408	3
RBM28_HUMAN	79	86198	2
DDX23_HUMAN	78	95866	3
RAI14_HUMAN	74	110601	4
MPP10_HUMAN	74	78930	3
ITPR1_HUMAN	73	317151	3
ITPR2_HUMAN	21	311060	1
PR40A_HUMAN	72	109022	2
ADT3_HUMAN	71	33073	3
ADT2_HUMAN	60	33059	3
ADT1_HUMAN	36	33271	1
RAD50_HUMAN	70	154823	3
SART3_HUMAN	69	110721	4
AKNA_HUMAN	69	155842	2
PTPRC_HUMAN	68	148644	1
CP131_HUMAN	67	122531	1
NSUN2_HUMAN	66	87214	4
NOC2L_HUMAN	66	85721	1
NOL8_HUMAN	66	132448	1
NNTM_HUMAN	64	114564	2
ECM29_HUMAN	64	205985	3
DDX54_HUMAN	62	98819	5
CDC5L_HUMAN	62	92422	1
ESF1_HUMAN	60	99134	2
MICA3_HUMAN	60	225297	4
IPO9_HUMAN	59	116858	2
KDM1A_HUMAN	59	93358	2
HNRPM_HUMAN	58	77749	2
XRN2_HUMAN	57	109426	4
RPA2_HUMAN	57	129799	1
TCOF_HUMAN	57	152243	1
IPO5_HUMAN	56	125032	5
RNBP6_HUMAN	24	126173	1
LARP1_HUMAN	55	123833	2
SF3B2_HUMAN	55	100279	1
XPC_HUMAN	55	106743	4
RAD21_HUMAN	55	71930	1
OSBL8_HUMAN	54	101759	1
AP3D1_HUMAN	54	131159	2
DHX37_HUMAN	54	130547	1
RL1D1_HUMAN	53	55167	1
K1C14_HUMAN	53	51872	1
DDX27_HUMAN	53	90292	2
EXOC4_HUMAN	52	111170	1
MDC1_HUMAN	52	227669	4
RL6_HUMAN	52	32765	1
DCTN1_HUMAN	51	142348	1
COPB2_HUMAN	51	103278	4
RPOM_HUMAN	50	140300	1
EIFCL_HUMAN	50	106091	2
KIT_HUMAN	50	111163	2
NOP58_HUMAN	50	60054	2
CE192_HUMAN	50	215180	1
SFPQ_HUMAN	49	76216	2
MCCB_HUMAN	49	61808	5
MYO9B_HUMAN	49	244846	2
PTSS1_HUMAN	49	56175	1

TFR1_HUMAN	49	85274	2
DNMT1_HUMAN	49	185388	2
SRGP1_HUMAN	49	125099	1
SR140_HUMAN	49	118675	3
DYN2_HUMAN	49	98345	3
DYN1_HUMAN	35	97746	1
F120A_HUMAN	48	123008	3
SAFB1_HUMAN	48	103036	2
SAFB2_HUMAN	42	107921	1
VAV_HUMAN	48	99677	2
VAV3_HUMAN	26	99082	1
RPTOR_HUMAN	48	150653	1
SMC4_HUMAN	48	147775	3
RBM5_HUMAN	47	92610	1
CENPC_HUMAN	47	107396	1
SVIL_HUMAN	46	249417	2
SON_HUMAN	46	264063	1
AKAP9_HUMAN	45	455725	1
CE120_HUMAN	45	113198	1
SRRM1_HUMAN	45	102331	2
GTF2I_HUMAN	45	112859	2
FILA2_HUMAN	45	249296	1
SYIM_HUMAN	45	114688	2
H2A1B_HUMAN	45	14127	1
IF2P_HUMAN	44	139198	2
TPR_HUMAN	44	267530	2
BRD1_HUMAN	44	121554	1
TTLL7_HUMAN	43	103846	1
PCM1_HUMAN	43	230046	1
IREB2_HUMAN	42	106004	1
XRCC6_HUMAN	41	70084	3
SF3A1_HUMAN	41	88888	1
XRCC5_HUMAN	41	83222	4
SPTA3_HUMAN	41	21572	1
HP1B3_HUMAN	41	61454	1
HNRPC_HUMAN	40	33707	2
HNRC1_HUMAN	39	32180	1
HSP72_HUMAN	40	70263	1
SMRC2_HUMAN	40	133196	1
MMS19_HUMAN	40	114928	1
HLTF_HUMAN	40	114883	3
RB12B_HUMAN	40	118372	2
ABCF1_HUMAN	39	96323	2
TIF1B_HUMAN	39	90261	2
TERA_HUMAN	39	89950	1
PFKAL_HUMAN	38	85762	1
BRPF1_HUMAN	38	139066	1
CHERP_HUMAN	38	104150	2
SK2L2_HUMAN	38	118756	2
KIF14_HUMAN	37	187743	1
HNRPK_HUMAN	37	51230	1
RPN2_HUMAN	37	69355	1
PDC6I_HUMAN	37	96590	2
TCRG1_HUMAN	37	124051	1
ACINU_HUMAN	36	152170	2
HACD3_HUMAN	36	43360	1
SSH1_HUMAN	36	116465	1
SPICE_HUMAN	36	96548	1
THOC2_HUMAN	36	184541	2
TECR_HUMAN	36	36410	1
RRS1_HUMAN	36	41225	1
RICTR_HUMAN	36	194207	2
GEMI4_HUMAN	35	121728	2

CYFP1_HUMAN	35	146742	1
KIF11_HUMAN	35	120111	1
PHF14_HUMAN	34	101815	1
IPO4_HUMAN	34	120179	2
HNRPF_HUMAN	34	45985	1
KRI1_HUMAN	34	83004	1
C170L_HUMAN	34	32628	1
PDS5B_HUMAN	34	165818	2
MYADM_HUMAN	34	36049	1
WRN_HUMAN	33	164410	1
NU160_HUMAN	33	164355	1
NXN_HUMAN	33	48761	1
UGGG1_HUMAN	33	177819	1
DREB_HUMAN	33	71842	1
MAPK2_HUMAN	32	45938	1
STAR7_HUMAN	32	43257	1
SSH2_HUMAN	32	159770	2
SHIP1_HUMAN	32	134121	1
IPO11_HUMAN	32	113489	1
DDX24_HUMAN	31	96899	1
CHD1_HUMAN	31	197707	2
CHD6_HUMAN	23	308071	1
FANCI_HUMAN	31	150769	1
DDX10_HUMAN	30	101168	2
IDE_HUMAN	30	118692	1
ERAP1_HUMAN	30	107736	2
COR1A_HUMAN	30	51678	1
MAP1S_HUMAN	30	113111	1
CK5P2_HUMAN	30	216444	3
RB15B_HUMAN	29	97432	1
RL13_HUMAN	29	24304	1
WIZ_HUMAN	29	180217	1
DDX5_HUMAN	29	69618	1
DDX3X_HUMAN	29	73597	1
ATD2B_HUMAN	29	166351	1
VIGLN_HUMAN	29	141995	1
MYL6_HUMAN	28	17090	1
DKC1_HUMAN	28	58094	1
YS043_HUMAN	28	23372	1
CKAP5_HUMAN	28	227062	1
TPM1_HUMAN	28	32746	1
BAZ1A_HUMAN	27	180246	1
DGKZ_HUMAN	27	125704	1
XPO7_HUMAN	27	125196	1
USO1_HUMAN	27	108740	1
RBP2_HUMAN	26	362365	2
WAPL_HUMAN	26	134516	1
CWC22_HUMAN	26	105972	1
NCKPL_HUMAN	26	129554	1
PI4KA_HUMAN	25	233622	1
STRUM_HUMAN	25	135113	1
CD44_HUMAN	25	82001	1
LBR_HUMAN	25	71057	1
VIP2_HUMAN	24	141573	1
JCAD_HUMAN	24	149343	1
PLCA_HUMAN	24	32038	1
LUZP1_HUMAN	24	120772	1
CTNB1_HUMAN	24	86069	1
MAP4_HUMAN	23	121443	1
ITB1_HUMAN	23	91664	1
VTA1_HUMAN	23	34143	1
AL2SB_HUMAN	22	52748	1
RN213_HUMAN	22	598557	1

K1875_HUMAN	22	182416	1
USP9X_HUMAN	22	295515	1
4F2_HUMAN	21	68180	1
CD34_HUMAN	21	41091	1
SPT6H_HUMAN	21	200203	1
E41L2_HUMAN	21	113032	1
PRDM1_HUMAN	20	92966	1
PININ_HUMAN	20	81679	1
HXK1_HUMAN	20	103561	1
DEUP1_HUMAN	20	71503	1
HBB_HUMAN	20	16102	1
SMCA4_HUMAN	20	185100	1
STT3B_HUMAN	20	94241	1
S2548_HUMAN	19	33817	1
MFN2_HUMAN	19	87088	1
RPC2_HUMAN	19	129242	1
APC_HUMAN	19	313622	1
OIT3_HUMAN	18	62206	1
CC151_HUMAN	18	69268	1
DX39A_HUMAN	18	49611	1
AT12A_HUMAN	18	116292	1
NDUAA_HUMAN	17	41067	1
KPYM_HUMAN	17	58470	1
CHSS1_HUMAN	17	92353	1
AMPN_HUMAN	17	109870	1
UBR5_HUMAN	17	312352	1
RB_HUMAN	17	106947	1
SMRC1_HUMAN	17	123303	1
ATRX_HUMAN	17	284863	1
PTRF_HUMAN	16	43450	1
LRFN5_HUMAN	16	80421	1
PAK2_HUMAN	16	58291	1
TAOK2_HUMAN	16	138964	1
CLIC1_HUMAN	16	27248	1
SMG7_HUMAN	16	127886	1
MA7D1_HUMAN	15	93106	1
RBM25_HUMAN	15	100467	1
TRIPB_HUMAN	15	228131	1
TTL13_HUMAN	15	94954	1
HS905_HUMAN	161	38942	2
XPP3_HUMAN	113	57624	1
PERE_HUMAN	65	81958	1
IMB1_HUMAN	2721	98420	12
MCM7_HUMAN	2311	81884	22
RN123_HUMAN	32	149960	1
PFKAP_HUMAN	2163	86454	16
PFKAM_HUMAN	138	85984	1
K2C79_HUMAN	319	58085	2
K2C1B_HUMAN	245	62149	1
DHX15_HUMAN	1451	91673	18
DHX16_HUMAN	42	119874	1
KATL2_HUMAN	51	61557	1
MCM5_HUMAN	886	83031	16
PSMD2_HUMAN	850	100877	11
POTEF_HUMAN	222	123020	2
PYGM_HUMAN	208	97487	4
SYTC_HUMAN	595	84294	15
SYTC2_HUMAN	98	93613	1
NOL11_HUMAN	563	82041	11
SUZ12_HUMAN	557	83744	6
TEX10_HUMAN	547	106349	11
H2B1C_HUMAN	495	13898	2
H2B2C_HUMAN	53	21971	1

AATF_HUMAN	526	63208	12
EFR3A_HUMAN	513	93777	13
SSRP1_HUMAN	496	81367	10
HNRPR_HUMAN	493	71184	9
HNRPQ_HUMAN	81	69788	4
SYQ_HUMAN	457	88655	13
CALX_HUMAN	452	67982	6
RRP1B_HUMAN	427	84774	6
MIC60_HUMAN	425	84026	8
TNPO1_HUMAN	396	103771	12
TNPO2_HUMAN	180	102862	3
LAS1L_HUMAN	386	83982	11
TBA1B_HUMAN	376	50804	8
TBA1C_HUMAN	359	50548	1
ODFP2_HUMAN	371	96140	10
TRFM_HUMAN	360	81760	8
ESYT2_HUMAN	359	102807	11
UBF1_HUMAN	355	89692	8
VPS35_HUMAN	354	92447	8
DDX1_HUMAN	311	83349	11
IF16_HUMAN	311	88656	6
IFIX_HUMAN	159	55316	2
STAT3_HUMAN	292	88810	9
NUP93_HUMAN	290	93943	11
MOGS_HUMAN	277	92032	5
DDX51_HUMAN	261	72983	8
TBK1_HUMAN	257	84216	8
NCBP1_HUMAN	242	92864	8
DAAF5_HUMAN	214	94774	9
H2A1A_HUMAN	70	14225	1
LIMA1_HUMAN	198	85630	4
PLOD1_HUMAN	193	84068	7
GYS1_HUMAN	183	84531	5
GYS2_HUMAN	95	81565	1
ZW10_HUMAN	183	89628	7
HSP7C_HUMAN	181	71082	6
GRP78_HUMAN	80	72402	3
HS71L_HUMAN	97	70730	2
OPA1_HUMAN	180	112131	9
STA5A_HUMAN	179	91161	6
STA5B_HUMAN	132	90323	6
PNPT1_HUMAN	169	86524	6
TTC27_HUMAN	155	97883	4
IF4G2_HUMAN	155	102810	8
P5CS_HUMAN	154	87989	7
CUL4A_HUMAN	151	88138	4
CSDE1_HUMAN	149	89684	8
KS6A4_HUMAN	146	86122	5
KS6A5_HUMAN	46	90379	1
TNPO3_HUMAN	145	105961	6
K1C15_HUMAN	53	49409	1
GLU2B_HUMAN	132	60357	4
H12_HUMAN	128	21352	1
ARHG6_HUMAN	124	88698	5
ARHG7_HUMAN	68	90868	2
LOXL3_HUMAN	123	85280	4
FUBP2_HUMAN	122	73355	6
MRE11_HUMAN	121	80885	4
DDX18_HUMAN	118	75702	4
XRCC1_HUMAN	112	69776	3
AKP8L_HUMAN	112	72060	3
EZH2_HUMAN	104	87247	3
RPA34_HUMAN	104	55236	7

WRIP1_HUMAN	100	72829	6
EXOC6_HUMAN	98	94404	4
AP1G1_HUMAN	98	92148	2
NUP98_HUMAN	96	198597	3
DDX17_HUMAN	92	80906	3
A16A1_HUMAN	89	86100	3
RFTN1_HUMAN	89	63677	1
RIR1_HUMAN	87	90925	4
ARBK1_HUMAN	85	80321	3
ARBK2_HUMAN	47	80685	1
GMEB1_HUMAN	48	62894	1
UN45A_HUMAN	84	104266	1
RUNX1_HUMAN	84	48877	2
DDX31_HUMAN	80	94770	3
SDA1_HUMAN	80	80277	4
SC23A_HUMAN	80	87018	3
SC23B_HUMAN	65	87393	3
UFL1_HUMAN	79	89996	6
EGLN_HUMAN	78	71559	1
NOL10_HUMAN	76	80822	3
CUL1_HUMAN	76	90306	3
STAT1_HUMAN	72	87850	4
PLCZ1_HUMAN	68	70880	1
EI2BE_HUMAN	68	81071	1
AB1IP_HUMAN	68	73593	2
NOL9_HUMAN	67	80527	2
CIP2A_HUMAN	66	103318	1
VPS51_HUMAN	65	86901	3
TBCD5_HUMAN	63	89519	3
KS6A3_HUMAN	63	84025	4
KS6A2_HUMAN	30	83642	2
TELO2_HUMAN	57	92430	2
AKAP8_HUMAN	56	76631	3
ACON_HUMAN	56	86113	2
NUP88_HUMAN	54	84629	1
NKRF_HUMAN	54	78308	2
IL1AP_HUMAN	50	66118	3
CEP78_HUMAN	48	77204	3
CEP83_HUMAN	48	82180	4
LETM1_HUMAN	47	83986	2
GNL3_HUMAN	45	62468	1
EZRI_HUMAN	44	69484	2
PESC_HUMAN	43	68359	2
KDM1B_HUMAN	43	93465	2
MTG8_HUMAN	42	68323	2
SYCC_HUMAN	41	86103	1
NSMA3_HUMAN	40	94033	3
TRI41_HUMAN	40	72708	2
VPS16_HUMAN	39	95660	2
THOC1_HUMAN	38	76360	2
MBD1_HUMAN	38	68788	2
AGAP2_HUMAN	37	125396	1
PRC2B_HUMAN	36	243958	1
SAE2_HUMAN	36	71749	1
IFT74_HUMAN	36	69310	1
KI2L2_HUMAN	35	38961	1
ROCK2_HUMAN	35	161939	1
SCAFB_HUMAN	34	166319	1
MTA1_HUMAN	34	81420	1
P3H1_HUMAN	33	84196	1
WBP11_HUMAN	33	69954	2
FUS_HUMAN	33	53622	1
AGO1_HUMAN	32	98293	1

TF3C4_HUMAN	32	93235	1
PDXD1_HUMAN	32	87565	1
OS9_HUMAN	32	75971	1
PRPF3_HUMAN	31	77652	1
AP1G2_HUMAN	31	87917	1
SYC2L_HUMAN	30	94054	1
EWS_HUMAN	30	68721	1
KAT7_HUMAN	30	71282	1
AAR2_HUMAN	30	43843	1
LRIF1_HUMAN	29	84744	1
NOG1_HUMAN	28	74317	1
SUV3_HUMAN	28	88791	2
RAGP1_HUMAN	28	63958	1
TTL12_HUMAN	28	75154	2
TGFA1_HUMAN	28	98236	1
APC4_HUMAN	27	92856	1
VINC_HUMAN	27	124292	1
SC24C_HUMAN	27	119789	1
CPT1A_HUMAN	27	88995	2
NAA15_HUMAN	26	102462	1
RIN1_HUMAN	25	84902	1
PLOD3_HUMAN	25	85302	1
THRB_HUMAN	25	71475	1
TPRN_HUMAN	25	75795	1
Z280C_HUMAN	24	84867	1
ACOC_HUMAN	24	98850	1
NEK9_HUMAN	24	108868	1
EPG5_HUMAN	23	295201	1
PANK4_HUMAN	23	86621	1
RUFY1_HUMAN	23	80851	1
VILI_HUMAN	22	93093	1
PRIC3_HUMAN	22	70789	1
SYF1_HUMAN	22	100745	1
ARNT2_HUMAN	22	79268	1
PIBF1_HUMAN	22	90035	1
RL4_HUMAN	22	47953	2
CQ085_HUMAN	21	70663	1
NATD1_HUMAN	21	13195	1
C2C4A_HUMAN	21	40346	1
PSIP1_HUMAN	20	60181	1
MARK2_HUMAN	20	88255	1
CACO1_HUMAN	20	77745	1
ACAP2_HUMAN	20	88943	1
NR3L1_HUMAN	20	51536	1
F179B_HUMAN	20	190611	1
AFAD_HUMAN	19	207702	1
GTPB1_HUMAN	19	73035	1
ZFP91_HUMAN	19	64261	1
FOXK1_HUMAN	19	75867	1
SCLT1_HUMAN	19	81203	1
CCDC9_HUMAN	18	59781	1
RL18_HUMAN	18	21735	1
PML_HUMAN	18	99143	1
UBP5_HUMAN	18	96638	1
PI3R4_HUMAN	18	154318	1
ATPA_HUMAN	18	59828	1
CP2CJ_HUMAN	18	56636	1
ACADV_HUMAN	18	70745	1
LRRK2_HUMAN	18	289568	1
ARI3B_HUMAN	17	60714	1
HEY2_HUMAN	17	36071	1
ZSC30_HUMAN	17	57469	1
C4BPA_HUMAN	17	69042	1

F91A1_HUMAN	17	94648	1
MIO_HUMAN	17	100232	1
PLCL1_HUMAN	17	124360	1
MYH7_HUMAN	16	223757	1
RA1L2_HUMAN	16	34375	1
SCRN3_HUMAN	16	48969	1
COBL_HUMAN	16	136446	1
LAR4B_HUMAN	15	80902	1
IQCE_HUMAN	15	77649	1
HSP71_HUMAN	888	70294	12
HSP76_HUMAN	530	71440	4
HSP77_HUMAN	279	40448	1
GRP75_HUMAN	1891	73920	14
K2C72_HUMAN	45	56470	1
K2C6B_HUMAN	295	60315	1
K2C75_HUMAN	216	59809	3
K2C7_HUMAN	161	51411	1
K2C71_HUMAN	21	57769	1
DDX3Y_HUMAN	492	73564	7
ANXA6_HUMAN	1187	76168	15
PABP1_HUMAN	1153	70854	11
PABP4_HUMAN	396	71080	4
PABP3_HUMAN	606	70215	5
PAP1L_HUMAN	136	68976	2
PAP1M_HUMAN	96	22956	1
K0020_HUMAN	813	73937	16
GRM1C_HUMAN	65	76273	1
SYRC_HUMAN	801	76129	16
MOES_HUMAN	796	67892	15
RADI_HUMAN	297	68635	6
IF2B2_HUMAN	703	66195	11
IF2B3_HUMAN	409	64008	10
IF2B1_HUMAN	83	63783	2
GLGB_HUMAN	655	80879	14
ECHA_HUMAN	616	83688	12
RPN1_HUMAN	581	68641	13
WDR46_HUMAN	533	68485	12
BTK_HUMAN	523	76917	11
PYRG1_HUMAN	519	67332	10
PYRG2_HUMAN	99	66320	1
RBM14_HUMAN	509	69620	6
URP2_HUMAN	500	76475	14
NSF_HUMAN	475	83055	10
TKT_HUMAN	470	68519	9
CIR1A_HUMAN	466	77526	8
GT251_HUMAN	432	71933	9
LMNB1_HUMAN	431	66653	7
PCKGM_HUMAN	378	71483	12
PCKGC_HUMAN	49	69948	1
ACSL4_HUMAN	376	80220	11
ACSL3_HUMAN	108	81338	3
AFG32_HUMAN	373	88984	8
MTA2_HUMAN	363	75717	9
MTA3_HUMAN	45	68202	1
CMC1_HUMAN	324	75114	9
CMC2_HUMAN	219	74528	8
WDR43_HUMAN	323	75813	7
RGAP1_HUMAN	320	71666	8
K1H1_HUMAN	315	48633	1
KT33B_HUMAN	260	47325	1
KRT36_HUMAN	101	53354	1
KT33A_HUMAN	285	47166	1
KRT35_HUMAN	219	51640	1
K1H2_HUMAN	194	51793	1
K1C40_HUMAN	83	50046	1
SRP72_HUMAN	313	75130	9



RBM39_HUMAN	298	59628	5
TBB6_HUMAN	188	50281	4
TBB8_HUMAN	182	50257	1
RFA1_HUMAN	286	68723	10
DNM1L_HUMAN	278	82339	8
SYK_HUMAN	277	68461	11
ADAS_HUMAN	274	73664	7
NUP85_HUMAN	262	75826	7
RBP56_HUMAN	251	62021	3
PDIA4_HUMAN	247	73229	8
ZN326_HUMAN	216	65955	4
SRP68_HUMAN	215	71199	6
SYG_HUMAN	209	83854	5
LRRK1_HUMAN	28	228385	1
TBC15_HUMAN	208	80352	6
GUAA_HUMAN	205	77408	6
KIF22_HUMAN	186	73616	5
RAVR1_HUMAN	186	64464	3
FXR1_HUMAN	183	70020	5
ODP2_HUMAN	181	69466	1
AMPB_HUMAN	178	73234	7
ELMO2_HUMAN	172	83018	7
ELMO1_HUMAN	118	84517	5
ABCF3_HUMAN	172	80094	5
TRI25_HUMAN	170	72581	6
ARAF_HUMAN	166	68341	1
RAF1_HUMAN	89	73803	2
BRAF_HUMAN	84	85125	1
NDUS1_HUMAN	166	80443	8
FBX46_HUMAN	163	65731	6
CPSF6_HUMAN	163	59344	5
E2AK2_HUMAN	159	62512	4
VATA_HUMAN	156	68660	3
PARN_HUMAN	153	73918	4
SUN2_HUMAN	145	80490	3
GNL3L_HUMAN	144	66216	7
DDX41_HUMAN	142	70477	5
UTP18_HUMAN	141	62421	2
KRT85_HUMAN	139	57306	1
KRT82_HUMAN	98	57985	1
KRT81_HUMAN	87	56832	1
ASM3B_HUMAN	138	51237	5
KPCA_HUMAN	136	77841	3
KPCB_HUMAN	100	77960	2
AIFM1_HUMAN	135	67144	1
MTF2_HUMAN	133	68374	6
LMNB2_HUMAN	133	67762	5
CENPB_HUMAN	132	65531	3
HNRPL_HUMAN	129	64720	4
DHX33_HUMAN	129	79565	4
CAN1_HUMAN	128	82465	7
GFPT1_HUMAN	127	79555	6
SDHA_HUMAN	125	73672	2
ANM5_HUMAN	124	73322	5
NOP9_HUMAN	123	70136	4
ABCF2_HUMAN	119	71815	6
RED_HUMAN	117	65676	4
ABCD3_HUMAN	114	75941	6
SYFB_HUMAN	112	66701	1
EIF3D_HUMAN	108	64560	3
SF01_HUMAN	107	68514	1
PTCD3_HUMAN	107	79184	3
PLAK_HUMAN	105	82434	6
POC5_HUMAN	104	63711	1
TEC_HUMAN	102	74389	3
PLST_HUMAN	102	71279	1

PLSL_HUMAN	64	70814	1
PLSI_HUMAN	41	70608	1
COIL_HUMAN	102	63254	4
ZWILC_HUMAN	100	67685	1
MBD4_HUMAN	96	66808	1
DEFI6_HUMAN	94	74435	2
PPCE_HUMAN	91	81560	5
SAS10_HUMAN	88	54639	2
EXOC5_HUMAN	84	82827	2
EXOC7_HUMAN	82	83729	3
DDX55_HUMAN	82	69073	2
SRPR_HUMAN	79	70223	1
SAMH1_HUMAN	79	72896	5
LAP2A_HUMAN	79	76016	3
LAP2B_HUMAN	24	50696	1
DDX52_HUMAN	79	67798	4
PPR18_HUMAN	78	68187	1
MECP2_HUMAN	77	52580	2
SCFD2_HUMAN	77	75877	4
NO66_HUMAN	76	71384	3
SENP3_HUMAN	76	65596	1
ZCCHV_HUMAN	75	103135	4
S27A2_HUMAN	75	71066	3
KEAP1_HUMAN	73	71160	1
APC5_HUMAN	71	85707	4
ORC3_HUMAN	70	83285	2
SHCBP_HUMAN	69	76726	4
ARHG8_HUMAN	69	68154	1
RPAP3_HUMAN	68	75957	2
MET13_HUMAN	67	79573	3
LARP7_HUMAN	66	67143	2
MERL_HUMAN	65	69874	1
SHKB1_HUMAN	64	76923	3
LRC40_HUMAN	64	68720	1
MAGD2_HUMAN	63	65085	1
MAGD1_HUMAN	24	86221	1
MIRO1_HUMAN	63	71765	1
PAF1_HUMAN	61	60110	3
ACS2L_HUMAN	60	75664	2
MEN1_HUMAN	59	68380	2
FUBP1_HUMAN	59	67690	4
FUBP3_HUMAN	27	61944	1
PPM1G_HUMAN	58	59919	1
CBX2_HUMAN	58	56388	1
VTNC_HUMAN	58	55069	1
T2FA_HUMAN	58	58262	1
PWP1_HUMAN	57	56363	3
DESP_HUMAN	57	334021	1
HABP2_HUMAN	26	64740	1
SCFD1_HUMAN	56	72676	2
ACPH_HUMAN	55	82142	3
SNX1_HUMAN	55	59147	1
STAT6_HUMAN	55	94816	1
NXF1_HUMAN	54	70652	1
PGM2_HUMAN	53	68754	1
CTBL1_HUMAN	53	65588	1
ANM3_HUMAN	44	60522	1
LRC15_HUMAN	52	65238	1
XPP1_HUMAN	51	70558	1
CRNL1_HUMAN	51	100902	2
NCDN_HUMAN	50	80239	1
DAF_HUMAN	50	42400	2
KIF2A_HUMAN	50	80589	1
SPA5L_HUMAN	49	81515	3
2A5D_HUMAN	49	70289	1
ZDH16_HUMAN	48	44574	1

STK39_HUMAN	48	59950	1
GUF1_HUMAN	48	74737	1
UBS3B_HUMAN	48	73790	1
FAKD5_HUMAN	47	87488	1
KR87P_HUMAN	47	29555	1
PTPRG_HUMAN	46	163042	1
ZN512_HUMAN	46	65724	2
PRC1_HUMAN	46	72246	1
IF4A1_HUMAN	45	46353	1
ATD3A_HUMAN	45	71610	1
ABCD1_HUMAN	45	83398	2
HNRH1_HUMAN	43	49484	1
MFAP1_HUMAN	43	51927	2
SMCA2_HUMAN	42	181794	1
RBBP5_HUMAN	41	59800	1
CPSF3_HUMAN	41	78120	1
CHD7_HUMAN	41	337542	1
CAF1B_HUMAN	40	61910	1
FAF1_HUMAN	40	74364	3
TCPG_HUMAN	39	61066	2
PGH1_HUMAN	39	69383	1
CSTF3_HUMAN	39	83325	2
FACD2_HUMAN	39	165792	1
BRAT1_HUMAN	39	89774	1
SNX2_HUMAN	39	58549	1
NADE_HUMAN	36	80545	1
CBX4_HUMAN	36	61672	1
LYRIC_HUMAN	36	63856	1
SNW1_HUMAN	35	61514	1
PALM_HUMAN	35	42221	1
ASML_HUMAN	34	69554	1
VIP1_HUMAN	34	161245	1
FIP1_HUMAN	34	66601	1
UTP6_HUMAN	33	70776	1
PRP17_HUMAN	33	66164	1
SBP1_HUMAN	33	52928	1
HSPB1_HUMAN	33	22826	1
GLCNE_HUMAN	33	80193	1
DGLB_HUMAN	33	74882	2
ASH2L_HUMAN	33	69307	1
ECHP_HUMAN	32	80072	1
AP3B1_HUMAN	32	121815	1
TOM70_HUMAN	32	68096	1
NRBP_HUMAN	32	60377	1
HCLS1_HUMAN	31	54095	1
ECHB_HUMAN	31	51547	1
IRAK1_HUMAN	31	77458	1
SCML2_HUMAN	30	78063	1
SAMD1_HUMAN	30	56189	1
ATG7_HUMAN	30	79050	1
THMS2_HUMAN	30	72801	2
ERCC2_HUMAN	29	87652	1
SWP70_HUMAN	29	69354	1
NPL4_HUMAN	28	69046	1
WDR76_HUMAN	28	70466	1
CDCA2_HUMAN	28	114146	1
STIP1_HUMAN	28	63227	1
THOP1_HUMAN	28	79702	2
TAP1_HUMAN	27	87733	1
RS4X_HUMAN	27	29807	1
PDE12_HUMAN	27	68221	1
IQCB1_HUMAN	27	69342	1
FSIP2_HUMAN	27	785878	1
ERG7_HUMAN	27	84453	2
SEPT9_HUMAN	26	65646	2
P66A_HUMAN	26	68363	1

TNIP1_HUMAN	26	72105	1
SCRIB1_HUMAN	26	61636	1
ERLEC_HUMAN	25	55679	1
ASZ1_HUMAN	25	53938	1
DSG4_HUMAN	24	115462	1
MCE1_HUMAN	24	69425	1
UBQL2_HUMAN	24	65655	1
VGLU3_HUMAN	24	65861	1
SATB1_HUMAN	24	86246	2
SATB2_HUMAN	24	83017	1
WDR26_HUMAN	24	73048	1
FHOD1_HUMAN	22	127328	1
DDX4_HUMAN	22	80113	1
PDIP2_HUMAN	22	42235	1
HAUS3_HUMAN	21	70006	1
ZSWM5_HUMAN	21	132318	1
KHDR1_HUMAN	21	48311	1
SYTM_HUMAN	21	81841	1
CSMD3_HUMAN	20	414007	1
THOC5_HUMAN	20	79199	1
PLCH2_HUMAN	20	155940	1
MDHM_HUMAN	20	35937	1
DC1I2_HUMAN	20	71811	1
TIRAP_HUMAN	19	24267	1
SRRM2_HUMAN	19	300179	1
KBP_HUMAN	19	72453	1
ABCE1_HUMAN	19	68240	1
GTPB2_HUMAN	19	66468	1
DSG1_HUMAN	19	114702	1
GALT1_HUMAN	19	65090	1
PXK_HUMAN	19	65479	1
LKHA4_HUMAN	18	69868	1
TAF6L_HUMAN	18	68342	1
PIEZ2_HUMAN	18	320652	1
WASF2_HUMAN	18	54478	1
HEAT3_HUMAN	17	75789	1
KLC1_HUMAN	17	65782	1
CE170_HUMAN	17	175586	1
SPDE1_HUMAN	17	41041	1
ITAV_HUMAN	17	117048	1
DHB4_HUMAN	17	80092	1
KI26B_HUMAN	17	226481	1
TAP2_HUMAN	16	76186	1
SYLM_HUMAN	16	102823	1
NCPR_HUMAN	16	77097	1
NSMA_HUMAN	16	48128	1
KIFC1_HUMAN	16	74272	1
CENPI_HUMAN	16	87748	1
PIDD1_HUMAN	15	100619	1
CH60_HUMAN	2272	61187	23
KPYR_HUMAN	96	62191	1
TBA3E_HUMAN	728	50568	1
TBAL3_HUMAN	92	50675	1
TCPD_HUMAN	1233	58401	14
TCPA_HUMAN	1229	60819	17
TCPQ_HUMAN	1167	60153	17
TCPE_HUMAN	822	60089	14
P4HA1_HUMAN	821	61296	10
TBB8L_HUMAN	356	50168	3
TCPH_HUMAN	808	59842	12
NOC4L_HUMAN	768	58830	15
ATD3C_HUMAN	464	46635	6
ATD3B_HUMAN	258	73098	6
TCPZ_HUMAN	725	58444	12
TCPW_HUMAN	198	58355	3
CPNE2_HUMAN	656	61835	11

CPNE3_HUMAN	93	60947	1
U2AF2_HUMAN	630	53809	9
G6PI_HUMAN	594	63335	8
PUR9_HUMAN	585	65089	16
EIF3L_HUMAN	534	66912	12
IMA1_HUMAN	508	58168	9
IMA8_HUMAN	35	57529	1
SYNC_HUMAN	490	63758	12
NP1L1_HUMAN	488	45631	1
KCC2G_HUMAN	479	63311	7
KCC2B_HUMAN	177	73544	1
KCC2A_HUMAN	108	54624	1
UTP15_HUMAN	477	58721	7
AP2S1_HUMAN	77	17178	1
SYFA_HUMAN	407	57585	6
OXSR1_HUMAN	401	58271	6
TBL1R_HUMAN	370	56187	8
TBL1X_HUMAN	71	63255	2
TBL1Y_HUMAN	26	57280	1
COPD_HUMAN	367	57630	8
FKBP4_HUMAN	366	52057	9
PSMD3_HUMAN	351	61054	11
ARP5_HUMAN	43	68825	1
RTCB_HUMAN	339	55688	9
RIC8A_HUMAN	337	60185	10
RIC8B_HUMAN	28	59586	1
CGAS_HUMAN	328	59462	9
PDIA3_HUMAN	323	57146	8
CALR_HUMAN	321	48283	5
IMA7_HUMAN	317	60733	6
IMA5_HUMAN	260	60925	7
IMA6_HUMAN	235	61052	4
EHD1_HUMAN	315	60646	10
EHD4_HUMAN	80	61365	5
EHD3_HUMAN	64	60906	3
NCLN_HUMAN	314	63106	10
LRRF2_HUMAN	309	82349	5
SF3A3_HUMAN	307	59154	5
MAOM_HUMAN	299	66029	9
SYYC_HUMAN	291	59448	8
SNUT2_HUMAN	281	65739	11
2AAA_HUMAN	274	66065	9
2AAB_HUMAN	149	66799	7
PRS4_HUMAN	259	49325	1
PRS8_HUMAN	43	45768	1
NONO_HUMAN	248	54311	5
RCC2_HUMAN	244	56790	8
IMA4_HUMAN	237	58288	7
IMA3_HUMAN	101	58364	3
AAAS_HUMAN	237	60392	9
UBP14_HUMAN	237	56489	4
PTBP1_HUMAN	236	57357	8
PTBP2_HUMAN	27	57569	1
DDX28_HUMAN	236	59773	7
EI2BD_HUMAN	230	58035	6
NELFD_HUMAN	210	66832	6
LYN_HUMAN	206	58993	9
YES_HUMAN	116	61276	6
SRC_HUMAN	57	60310	3
FYN_HUMAN	53	61237	2
HCK_HUMAN	41	60075	1
IMDH2_HUMAN	206	56226	5
IRAK3_HUMAN	201	68864	8
HDAC1_HUMAN	199	55638	5
HDAC2_HUMAN	170	55899	4
CCD86_HUMAN	197	40325	4

U3IP2_HUMAN	197	52436	2
GRWD1_HUMAN	194	49787	7
DC1L1_HUMAN	190	56829	7
G3BP1_HUMAN	178	52189	7
DD19A_HUMAN	178	54397	3
DJC11_HUMAN	172	63524	6
DDX56_HUMAN	167	62007	6
WDR1_HUMAN	165	66836	5
CEP63_HUMAN	160	81863	4
GSCR2_HUMAN	160	54470	4
CLPX_HUMAN	158	69922	6
PRP19_HUMAN	157	55603	7
CTSL2_HUMAN	153	53137	5
ACAD9_HUMAN	152	69344	3
SCOT1_HUMAN	151	56578	6
SCOT2_HUMAN	19	56731	1
RD23B_HUMAN	151	43202	5
API5_HUMAN	147	59310	5
SERA_HUMAN	144	57356	5
DNJC7_HUMAN	143	57203	4
NELFB_HUMAN	143	66283	3
NMT1_HUMAN	142	57112	4
NMT2_HUMAN	70	57286	1
EXOS9_HUMAN	140	49545	3
ILVBL_HUMAN	138	68452	7
COASY_HUMAN	136	62632	4
PARP2_HUMAN	136	66734	4
ADCK3_HUMAN	133	72418	5
ELP3_HUMAN	131	62789	5
PUF60_HUMAN	130	60009	7
ETV6_HUMAN	130	53252	3
SYSC_HUMAN	129	59253	4
GDS1_HUMAN	125	67073	5
SQSTM_HUMAN	125	48455	1
ATLA3_HUMAN	124	60960	4
ATLA2_HUMAN	26	66814	1
RU17_HUMAN	118	51583	3
STAU1_HUMAN	117	63428	7
SSF1_HUMAN	116	53446	4
SMRD2_HUMAN	115	59112	5
DLDH_HUMAN	115	54713	2
VPS4B_HUMAN	114	49443	3
FIGL1_HUMAN	86	74829	1
SAC1_HUMAN	111	67437	5
SDPR_HUMAN	110	47202	1
CATA_HUMAN	110	59947	3
RCOR1_HUMAN	110	53110	1
RCOR3_HUMAN	47	55661	2
DPYL2_HUMAN	108	62711	5
DPYL1_HUMAN	36	62487	1
FA98A_HUMAN	107	55823	3
PGM1_HUMAN	102	61696	3
CEP57_HUMAN	97	57396	2
HNRH2_HUMAN	59	49517	1
DCTN4_HUMAN	94	53216	4
APC7_HUMAN	90	67440	2
CPNE1_HUMAN	89	59649	3
GLMN_HUMAN	87	68906	3
RRP8_HUMAN	85	51424	5
IKZF1_HUMAN	85	58632	2
COR1B_HUMAN	82	54885	1
COR2A_HUMAN	81	60239	3
SF3A2_HUMAN	77	49338	3
EED_HUMAN	76	50907	1
TCHP_HUMAN	76	61148	4
CDC23_HUMAN	76	69588	4

FAKD3_HUMAN	74	76895	1
AL4A1_HUMAN	74	62137	1
NUP62_HUMAN	73	53394	1
HSP7E_HUMAN	73	55444	2
ASNS_HUMAN	72	64899	3
KHDR2_HUMAN	21	38904	1
PNKP_HUMAN	71	57554	2
K1C19_HUMAN	64	44079	2
NP1L4_HUMAN	68	42968	1
YBOX3_HUMAN	68	40066	1
CAP1_HUMAN	67	52325	1
TCPB_HUMAN	66	57794	2
STK4_HUMAN	66	55823	3
RO60_HUMAN	66	61372	4
ERO1A_HUMAN	65	55213	2
PAPD1_HUMAN	65	66985	3
PRP4_HUMAN	62	59097	4
PPP5_HUMAN	61	57412	3
BGAL_HUMAN	61	76483	1
UAP1L_HUMAN	60	57565	1
AAPK1_HUMAN	59	64596	5
AAPK2_HUMAN	23	62850	1
CPSF7_HUMAN	57	52189	3
REN3B_HUMAN	57	57841	3
NCOA5_HUMAN	57	65725	1
MATK_HUMAN	56	57003	4
NASP_HUMAN	55	85471	1
LMAN1_HUMAN	55	57798	1
PAK1_HUMAN	41	60894	1
MPP6_HUMAN	54	61364	3
GPTC4_HUMAN	53	50579	1
ELF1_HUMAN	53	67684	2
MA2B1_HUMAN	53	114357	2
ARMC8_HUMAN	52	76601	1
STXB3_HUMAN	50	68633	1
TRI26_HUMAN	50	62925	2
ARFG2_HUMAN	49	57027	1
MUS81_HUMAN	49	61705	2
TBCE_HUMAN	48	59936	1
TYY1_HUMAN	48	45141	1
STK38_HUMAN	48	54498	1
DHAK_HUMAN	48	59252	4
GRP2_HUMAN	46	70060	2
PRP31_HUMAN	45	55649	1
PCYXL_HUMAN	45	54783	1
KLHL6_HUMAN	45	71340	1
ARI1_HUMAN	44	65900	1
SETD3_HUMAN	44	67557	1
INO1_HUMAN	44	61542	1
INT11_HUMAN	43	68360	2
TMX3_HUMAN	43	52181	1
SAAL1_HUMAN	43	54436	1
GLYR1_HUMAN	43	61088	2
SUH_HUMAN	43	56343	2
ULA1_HUMAN	42	60665	2
DEK_HUMAN	42	42933	4
WDR37_HUMAN	41	55316	2
TOE1_HUMAN	39	57367	3
KDEL2_HUMAN	38	58934	1
ZC3HF_HUMAN	38	48972	1
PTN6_HUMAN	38	67918	2
EDC3_HUMAN	38	56784	3
QRIC1_HUMAN	37	86838	1
ANT3_HUMAN	37	53025	1
TBRG4_HUMAN	36	71150	2
CNOT6_HUMAN	36	63723	2

TF3C1_HUMAN	35	241062	1
CSN1_HUMAN	35	56071	1
RCC1_HUMAN	35	45397	1
CNGB3_HUMAN	34	92679	1
WIPF1_HUMAN	33	51284	1
IRF5_HUMAN	33	56579	1
GEM15_HUMAN	33	170821	1
KAPCB_HUMAN	33	40711	1
PSPC1_HUMAN	32	58820	2
MTMRE_HUMAN	32	73013	1
CCD47_HUMAN	32	56123	2
GAPD1_HUMAN	32	166359	1
CLPB_HUMAN	32	79193	1
SNX27_HUMAN	32	61854	1
THUM3_HUMAN	31	57765	1
PUR1_HUMAN	31	58161	1
SRRT_HUMAN	31	101060	1
TRXR1_HUMAN	31	71832	2
VWA9_HUMAN	31	58004	1
VP33A_HUMAN	30	67967	1
APOA_HUMAN	30	514737	1
CENPU_HUMAN	30	47721	1
CNOT2_HUMAN	30	59871	1
PIGT_HUMAN	29	66228	1
FBRL_HUMAN	29	33877	1
CO6A1_HUMAN	29	109602	1
WASP_HUMAN	29	53108	1
MOS_HUMAN	29	38366	1
G3BP2_HUMAN	29	54145	1
TFCP2_HUMAN	28	57676	1
BANP_HUMAN	28	57143	2
PRI2_HUMAN	27	59225	1
CTR9_HUMAN	27	134332	1
SYPL1_HUMAN	27	28889	1
ZN207_HUMAN	27	51002	1
PDCD4_HUMAN	27	52102	1
CARM1_HUMAN	27	66382	1
RL7A_HUMAN	26	30148	1
CFA57_HUMAN	26	145839	1
PIGS_HUMAN	26	61731	1
TF3C5_HUMAN	26	59989	1
EIF2A_HUMAN	25	65519	2
CDYL1_HUMAN	24	66953	1
CEP55_HUMAN	24	54487	1
PLRG1_HUMAN	24	57500	1
TITIN_HUMAN	24	3842904	1
CWC27_HUMAN	23	53985	1
ATPB_HUMAN	23	56525	1
STT3A_HUMAN	23	81104	1
HACL1_HUMAN	23	64429	1
PATZ1_HUMAN	22	75438	1
LENG9_HUMAN	22	53818	1
AKA11_HUMAN	21	212946	1
CCDC6_HUMAN	21	53429	1
CD019_HUMAN	21	34234	1
FRIL_HUMAN	20	20064	1
MTND_HUMAN	20	21542	1
TF65_HUMAN	20	60695	1
K2C78_HUMAN	20	57629	1
VILL_HUMAN	20	96418	1
CDC73_HUMAN	20	60653	1
HMCS1_HUMAN	20	57828	1
GALT2_HUMAN	19	65433	2
RL7_HUMAN	19	29264	1
SRFB1_HUMAN	19	48718	1
DPOD3_HUMAN	18	51653	1



CTDP1_HUMAN	18	105304	1
CO3A1_HUMAN	18	139733	1
PLK1_HUMAN	17	68953	1
NUP54_HUMAN	17	55515	1
BAIP2_HUMAN	17	61115	1
RENT2_HUMAN	17	148972	1
UBQL1_HUMAN	17	62479	1
RSPRY_HUMAN	17	65450	1
DOK1_HUMAN	17	52815	1
HNRPD_HUMAN	17	38581	1
TTLL4_HUMAN	16	134606	1
CE290_HUMAN	16	290892	1
RHGBA_HUMAN	16	114879	1
MPP8_HUMAN	16	97636	1
TRI56_HUMAN	16	83147	1
BEND5_HUMAN	16	48551	1
PLMN_HUMAN	16	93247	1
TM131_HUMAN	15	205809	1
CDC45_HUMAN	15	66211	1
PGK1_HUMAN	453	44985	2
YBOX1_HUMAN	274	35903	2
YBOX2_HUMAN	60	38552	1
RUVB2_HUMAN	271	51296	6
IDHP_HUMAN	228	51333	3
EBP2_HUMAN	200	34887	3
RBMX_HUMAN	165	42306	2
RMXL1_HUMAN	152	42173	1
RMXL2_HUMAN	37	42959	1
ENOA_HUMAN	163	47481	1
SAHH_HUMAN	143	48255	2
ARP3_HUMAN	141	47797	5
ARP3B_HUMAN	100	48090	2
VRK1_HUMAN	122	45790	3
DNJA1_HUMAN	116	45581	1
BZW1_HUMAN	114	48184	2
BZW2_HUMAN	79	48360	1
SYDC_HUMAN	108	57499	2
ARP2_HUMAN	103	45017	3
RBBP4_HUMAN	99	47911	3
RBBP7_HUMAN	88	48132	2
METK2_HUMAN	97	43975	3
METK1_HUMAN	38	44190	1
CG025_HUMAN	95	46707	1
QCR2_HUMAN	93	48584	2
THIL_HUMAN	92	45456	2
ODO2_HUMAN	91	49067	2
UMPS_HUMAN	90	52645	1
6PGD_HUMAN	87	53619	1
RRP15_HUMAN	83	31636	2
ILEU_HUMAN	83	42829	2
Z355P_HUMAN	78	51424	1
MAK16_HUMAN	75	35689	2
EIF3F_HUMAN	74	37654	2
TMOD3_HUMAN	71	39741	3
TMOD1_HUMAN	39	40658	1
PUR6_HUMAN	67	47790	3
STK26_HUMAN	67	46785	2
S10A8_HUMAN	67	10885	1
ILF2_HUMAN	66	43263	1
PA2G4_HUMAN	65	44101	2
F10A1_HUMAN	65	41477	1
RTN4_HUMAN	64	130250	1
GNAS1_HUMAN	64	111697	2
TBG1_HUMAN	64	51480	1
OST48_HUMAN	63	50940	2
DHE3_HUMAN	61	61701	1

DNJA2_HUMAN	56	46344	1
ROA2_HUMAN	54	37464	1
IF2B_HUMAN	54	38706	1
EFTU_HUMAN	53	49852	1
EIF3E_HUMAN	52	52587	1
FLOT2_HUMAN	52	47434	1
GNAI2_HUMAN	49	40995	1
DDX49_HUMAN	46	54819	1
PSD11_HUMAN	46	47719	2
MRRP1_HUMAN	44	47602	1
CBX8_HUMAN	44	43483	1
BYST_HUMAN	44	49798	1
NAMPT_HUMAN	40	55772	1
CP51A_HUMAN	40	57169	1
GALK1_HUMAN	39	42702	3
IF4A3_HUMAN	39	47126	1
SCMC1_HUMAN	39	53548	1
PDIA6_HUMAN	39	48490	1
WDR12_HUMAN	39	48191	1
LYAR_HUMAN	39	44044	1
TRI27_HUMAN	38	59763	1
KAP2_HUMAN	38	45832	1
RL3_HUMAN	37	46365	1
LA_HUMAN	36	46979	1
NDUS2_HUMAN	35	52911	1
CLC11_HUMAN	35	36015	1
RPAC1_HUMAN	35	39453	1
SPTC1_HUMAN	35	53281	1
CI114_HUMAN	34	42496	1
AL1B1_HUMAN	33	57626	1
ERF1_HUMAN	33	49228	1
KAPCA_HUMAN	32	40678	1
OLA1_HUMAN	31	44943	1
PLEK_HUMAN	30	40499	1
CTBP1_HUMAN	29	47962	1
FLOT1_HUMAN	29	47554	2
GALT8_HUMAN	29	73432	1
DAPK3_HUMAN	28	52674	1
VASP_HUMAN	28	39976	1
EF1G_HUMAN	28	50429	1
DDX47_HUMAN	27	50900	1
AMPL_HUMAN	26	56530	1
AL7A1_HUMAN	25	59020	1
MKL1_HUMAN	25	99257	1
MMTA2_HUMAN	24	29679	1
WDR55_HUMAN	24	42557	1
KRR1_HUMAN	24	43866	1
MEP50_HUMAN	23	37442	1
ARI5B_HUMAN	22	133433	1
CO5_HUMAN	22	189897	1
DCA13_HUMAN	21	51996	1
PSMD6_HUMAN	21	45787	1
GSK3B_HUMAN	20	47228	1
F111A_HUMAN	20	71007	1
SAMD5_HUMAN	20	19390	1
DPTOR_HUMAN	18	46777	1
PRS7_HUMAN	18	49002	1
RBM34_HUMAN	18	48649	1
DAZP1_HUMAN	17	43584	1
TRUA_HUMAN	16	48010	1
NUD14_HUMAN	16	24331	1
CQ080_HUMAN	16	68356	1
MB211_HUMAN	22	41671	1
PP1A_HUMAN	965	38229	9
PP1G_HUMAN	807	37701	8
PP1B_HUMAN	780	37961	7

GNAI3_HUMAN	377	41076	4
GNA13_HUMAN	75	44364	2
GNAI1_HUMAN	292	40905	2
GNA12_HUMAN	68	44422	1
FBLL1_HUMAN	415	34711	2
G3P_HUMAN	792	36201	8
RLA0_HUMAN	697	34423	6
RLA0L_HUMAN	388	34514	3
ROA3_HUMAN	621	39799	7
MK67I_HUMAN	507	34372	9
EF1D_HUMAN	425	31217	6
EIF3I_HUMAN	372	36878	6
LDHB_HUMAN	362	36900	5
SERC_HUMAN	320	40796	8
PHB2_HUMAN	319	33276	6
ARC1B_HUMAN	306	41722	5
RFC5_HUMAN	305	38757	10
NACAM_HUMAN	283	205979	4
NACP1_HUMAN	33	23292	1
CAZA1_HUMAN	267	33073	7
CAZA2_HUMAN	157	33157	4
CDK6_HUMAN	266	37257	5
DCAF7_HUMAN	237	39528	2
RFC4_HUMAN	237	40170	4
CENPV_HUMAN	226	30383	4
RCL1_HUMAN	221	41273	6
HNRDL_HUMAN	216	46580	6
RALY_HUMAN	213	32501	2
RALYL_HUMAN	115	32425	1
LDHA_HUMAN	207	36950	6
TEAD1_HUMAN	25	48314	1
NGDN_HUMAN	205	35872	2
HNRH3_HUMAN	201	36960	2
PSD13_HUMAN	198	43203	7
VDAC1_HUMAN	195	30868	5
VDAC3_HUMAN	74	30981	1
ROAA_HUMAN	194	36316	5
PCBP2_HUMAN	193	38955	4
PCBP3_HUMAN	186	39725	3
PCBP1_HUMAN	183	37987	4
RL5_HUMAN	186	34569	5
TRA2B_HUMAN	181	33760	2
LEG9_HUMAN	179	39835	3
LEG9B_HUMAN	111	39977	2
ABT1_HUMAN	177	31117	5
BACH_HUMAN	171	42454	5
VDAC2_HUMAN	165	32060	4
CDCA5_HUMAN	164	27755	3
PRPS2_HUMAN	163	35146	4
PRPS1_HUMAN	146	35325	3
PRPS3_HUMAN	100	35387	2
RBM4_HUMAN	158	40688	2
RBM4B_HUMAN	67	40466	2
RRP7A_HUMAN	156	32485	4
ODPB_HUMAN	153	39550	5
AIMP1_HUMAN	151	34616	3
CCNY_HUMAN	149	39825	5
CCYL1_HUMAN	61	41250	1
IF2A_HUMAN	147	36374	4
ALDOA_HUMAN	144	39851	2
IMP4_HUMAN	144	33850	3
AURKB_HUMAN	137	39571	5
DNJB1_HUMAN	137	38191	5
DNJB4_HUMAN	40	38011	1
ENOB_HUMAN	43	47299	1
IDH3A_HUMAN	127	40022	3

ADPPT_HUMAN	123	35981	4
SNR40_HUMAN	123	39742	6
RPF2_HUMAN	122	35731	4
AATM_HUMAN	119	47886	3
STING_HUMAN	118	42736	2
PSMD7_HUMAN	118	37060	3
TRA2A_HUMAN	118	32726	2
GNAQ_HUMAN	112	42400	3
GNA11_HUMAN	103	42382	2
DIM1_HUMAN	111	35499	5
ROA0_HUMAN	111	30993	4
AIMP2_HUMAN	109	35668	3
MTNA_HUMAN	107	39467	1
AN32E_HUMAN	105	30902	3
SETLP_HUMAN	104	34861	2
RFC3_HUMAN	101	41328	4
GBB1_HUMAN	100	38151	2
GBB2_HUMAN	87	38048	1
AAKG1_HUMAN	97	37727	3
AAKG2_HUMAN	91	63198	1
ADHX_HUMAN	94	40554	2
PCID2_HUMAN	94	46627	4
AIP_HUMAN	94	38068	4
SRSF5_HUMAN	91	31359	2
RNPS1_HUMAN	90	34188	2
CDK9_HUMAN	89	43149	3
MDHC_HUMAN	85	36631	4
OTUB1_HUMAN	85	31492	3
DHSO_HUMAN	82	38927	1
NB5R3_HUMAN	82	34441	1
CA131_HUMAN	78	32804	2
TXNL1_HUMAN	76	32630	1
PARVG_HUMAN	75	37576	2
ANM1_HUMAN	73	42059	2
AK1A1_HUMAN	73	36892	3
ALDR_HUMAN	37	36230	1
MTDC_HUMAN	72	38042	3
SGTA_HUMAN	72	34270	1
NDUA9_HUMAN	69	42654	2
PP2AA_HUMAN	69	36142	3
U2AF1_HUMAN	69	28368	1
PSDE_HUMAN	68	34726	2
PLCE_HUMAN	68	42387	1
ACADS_HUMAN	67	44611	1
RING2_HUMAN	66	38088	1
APEX1_HUMAN	65	35931	1
PCNA_HUMAN	65	29092	3
IPYR_HUMAN	64	33095	3
IPYR2_HUMAN	49	38409	1
RT29_HUMAN	64	45880	3
PGK2_HUMAN	59	45166	2
ANXA2_HUMAN	63	38808	4
AXA2L_HUMAN	60	38806	3
FPPS_HUMAN	62	48758	3
LC7L2_HUMAN	61	46942	3
SRS10_HUMAN	61	31339	2
SRS12_HUMAN	49	30665	1
ISY1_HUMAN	60	33029	1
PR38A_HUMAN	59	37681	1
MO4L1_HUMAN	59	41562	3
MO4L2_HUMAN	54	32345	1
KCRB_HUMAN	58	42902	2
THOC3_HUMAN	57	39431	2
ABC3G_HUMAN	56	47233	1
TALDO_HUMAN	56	37688	1
MK14_HUMAN	56	41495	2

MK08_HUMAN	52	48835	1
MAT2B_HUMAN	54	37870	1
BRX1_HUMAN	52	41660	3
ARK72_HUMAN	52	40020	1
GLRX3_HUMAN	51	37693	2
RFC2_HUMAN	50	39588	1
UCHL5_HUMAN	50	37868	2
PINX1_HUMAN	50	37183	1
ARHG1_HUMAN	50	103056	2
RT22_HUMAN	49	41425	4
EIF3M_HUMAN	48	42932	2
ODPA_HUMAN	48	43952	2
TIM50_HUMAN	47	39850	2
STRAP_HUMAN	47	38756	2
SPI1_HUMAN	47	31177	2
M4K4_HUMAN	45	142754	1
MINK1_HUMAN	42	150413	1
NTH_HUMAN	45	34767	1
NDK7_HUMAN	44	42920	1
PP2BA_HUMAN	43	59335	1
SPSY_HUMAN	43	41698	1
F10A5_HUMAN	27	41579	1
TWF2_HUMAN	43	39751	2
PIHD1_HUMAN	43	32513	1
DJB11_HUMAN	42	40774	1
NUP37_HUMAN	42	37140	2
TFB1M_HUMAN	42	39860	2
PPID_HUMAN	40	41137	1
RRP1_HUMAN	40	53035	1
MAP11_HUMAN	39	44100	2
RPR1A_HUMAN	38	35926	1
RTCA_HUMAN	37	39825	1
KC1A_HUMAN	37	39118	2
RUSD3_HUMAN	37	38779	1
RL14_HUMAN	37	23531	1
ESTD_HUMAN	36	31956	1
TDIF1_HUMAN	36	37275	1
IDH3B_HUMAN	35	42442	3
DNJA3_HUMAN	35	53083	1
CDK7_HUMAN	34	39299	1
VP26A_HUMAN	34	38260	2
CMS1_HUMAN	34	32149	1
ZN761_HUMAN	34	90627	1
NALP3_HUMAN	33	120662	1
GRHPR_HUMAN	32	36045	2
SEC13_HUMAN	32	36031	1
BIEA_HUMAN	32	33692	1
ADA23_HUMAN	32	94433	1
PDIP3_HUMAN	31	46289	1
RAE1L_HUMAN	31	41569	1
IGBP1_HUMAN	31	39312	1
KC1G1_HUMAN	30	48937	1
H1X_HUMAN	30	22474	1
CSK22_HUMAN	30	41358	1
DCPS_HUMAN	30	38756	1
PPP6_HUMAN	30	35806	1
SUCA_HUMAN	29	36626	2
SIAS_HUMAN	29	40738	1
TSR1_HUMAN	29	92151	1
WDR5_HUMAN	29	37136	2
CRKL_HUMAN	28	33870	1
STX17_HUMAN	28	33611	1
GIPC1_HUMAN	28	36141	1
ASNA_HUMAN	28	39224	2
DYN3_HUMAN	27	98084	1
RYR3_HUMAN	28	557790	1

NSDHL_HUMAN	28	42159	2
FEN1_HUMAN	27	42908	1
RM04_HUMAN	27	34954	1
GPD1L_HUMAN	26	39021	1
NUBP1_HUMAN	26	35140	1
KPRA_HUMAN	26	39654	2
KPRB_HUMAN	16	41299	1
SRSF8_HUMAN	26	32382	1
DNJC9_HUMAN	26	30062	1
ATPG_HUMAN	25	33032	1
RS3_HUMAN	25	26842	1
BUB3_HUMAN	25	37587	1
DCD_HUMAN	25	11391	1
GMDS_HUMAN	25	42265	1
THIC_HUMAN	24	41838	1
ELAV1_HUMAN	24	36240	1
HEM6_HUMAN	23	50918	1
RIOK3_HUMAN	23	59511	1
3MG_HUMAN	22	33247	1
SPTN5_HUMAN	22	419230	1
HDGF_HUMAN	22	26886	1
PDXK_HUMAN	21	35308	1
PP6R1_HUMAN	21	97291	1
N2DL2_HUMAN	21	27863	1
ASAH1_HUMAN	21	45087	1
BST1_HUMAN	21	36328	1
RM39_HUMAN	21	39200	1
ACOD_HUMAN	21	41667	1
HM13_HUMAN	20	41747	1
PEX16_HUMAN	20	38662	1
THOC6_HUMAN	20	38081	2
TAP26_HUMAN	20	28880	1
LASP1_HUMAN	20	30097	1
FA92B_HUMAN	20	35048	1
I20L2_HUMAN	20	39415	1
RPB3_HUMAN	19	31764	1
RL19_HUMAN	19	23565	1
AT10B_HUMAN	19	167679	1
EI2BB_HUMAN	19	39193	1
RM44_HUMAN	18	37854	1
IDH3G_HUMAN	18	43166	1
CD123_HUMAN	18	39566	1
PLIN4_HUMAN	18	135204	1
PCY1A_HUMAN	18	42047	1
B3GT6_HUMAN	18	37513	1
LYSC_HUMAN	17	16982	1
ZADH2_HUMAN	17	40457	1
UFD1_HUMAN	17	34763	1
DHCR7_HUMAN	16	55195	1
ANR26_HUMAN	16	197400	1
RL10L_HUMAN	16	24959	1
RT05_HUMAN	16	48489	1
CD11A_HUMAN	16	91534	1
ADA2B_HUMAN	15	50333	1
TPM3_HUMAN	1112	32987	5
TPM2_HUMAN	803	32945	3
SRSF1_HUMAN	1050	27842	7
RS8_HUMAN	954	24475	6
GBLP_HUMAN	735	35511	10
RL10A_HUMAN	658	24987	7
ADT4_HUMAN	53	35285	1
CDK1_HUMAN	486	34131	10
RS6_HUMAN	481	28834	3
MRT4_HUMAN	416	27657	6
RAN_HUMAN	401	24579	5
1433E_HUMAN	388	29326	5

1433T_HUMAN	310	28032	4
1433Z_HUMAN	285	27899	4
1433B_HUMAN	277	28179	2
1433F_HUMAN	195	28372	2
1433G_HUMAN	187	28456	1
RS2_HUMAN	373	31590	5
RSMB_HUMAN	359	24765	3
RL7L_HUMAN	349	28757	7
ARPC2_HUMAN	349	34426	5
DHB12_HUMAN	342	34416	7
ECH1_HUMAN	334	36136	1
RS3A_HUMAN	325	30154	5
RU2A_HUMAN	313	28512	5
PHB_HUMAN	311	29843	7
SRSF9_HUMAN	307	25640	7
CAPZB_HUMAN	292	31616	5
NEP1_HUMAN	289	26931	6
PRDX6_HUMAN	271	25133	7
MPCP_HUMAN	250	40525	5
TADBP_HUMAN	249	45053	2
IF6_HUMAN	243	27095	4
H11_HUMAN	56	21829	1
THOC4_HUMAN	237	26872	3
M2OM_HUMAN	236	34211	4
RAB5C_HUMAN	226	23696	3
RAB5A_HUMAN	141	23872	2
NSA2_HUMAN	226	30218	6
EF1B_HUMAN	220	24919	2
PNO1_HUMAN	215	28078	3
HCD2_HUMAN	214	27134	6
UTP11_HUMAN	213	30485	4
GSTM3_HUMAN	205	26998	5
RSSA_HUMAN	200	32947	4
PSA5_HUMAN	199	26565	3
F207A_HUMAN	197	25441	4
SRSF7_HUMAN	186	27578	2
SRSF3_HUMAN	130	19546	2
PGAM1_HUMAN	184	28900	4
PGAM4_HUMAN	47	28930	2
PGAM2_HUMAN	42	28919	1
SPEE_HUMAN	182	34373	5
BOREA_HUMAN	182	31418	4
TXTP_HUMAN	174	34333	6
SRPRB_HUMAN	168	29912	5
PSA6_HUMAN	163	27838	3
ETFB_HUMAN	157	28054	5
RFA2_HUMAN	155	29342	4
RU2B_HUMAN	154	25470	2
SNRPA_HUMAN	86	31259	1
CAH2_HUMAN	151	29285	4
GDIR1_HUMAN	150	23250	2
K1C16_HUMAN	138	51578	1
PSA7_HUMAN	150	28041	3
PSA7L_HUMAN	96	28683	1
SRSF2_HUMAN	147	25461	1
PNPH_HUMAN	143	32325	5
DPM1_HUMAN	142	29673	4
GAR1_HUMAN	139	22505	3
HMGB2_HUMAN	136	24190	2
HMGB1_HUMAN	121	25049	2
HGB1A_HUMAN	92	24394	1
HMGB3_HUMAN	53	23137	1
CPSF5_HUMAN	133	26268	4
RL10_HUMAN	127	25044	2
DHB11_HUMAN	123	33257	4
WDR61_HUMAN	122	33731	2

GDIR2_HUMAN	120	23031	3
GHC1_HUMAN	119	34904	3
GHC2_HUMAN	95	34340	2
PSA3_HUMAN	118	28643	2
SARNP_HUMAN	117	23713	3
PSA4_HUMAN	109	29750	2
IF4H_HUMAN	108	27425	1
HPRT_HUMAN	108	24792	1
DNJB6_HUMAN	107	36122	2
DNJB3_HUMAN	66	16719	1
ENOPH_HUMAN	106	29086	1
PA1B3_HUMAN	105	25832	1
RPP30_HUMAN	104	29702	4
RANG_HUMAN	103	23467	1
TPIS_HUMAN	103	31057	5
ERP29_HUMAN	99	29032	2
C1QBP_HUMAN	97	31742	3
CYBP_HUMAN	95	26308	4
NUDT5_HUMAN	95	24597	4
ANXA5_HUMAN	93	35971	2
DIC_HUMAN	93	31718	2
BDH_HUMAN	92	38532	4
AN32B_HUMAN	91	28941	3
AN32A_HUMAN	63	28682	2
AN32C_HUMAN	30	26917	1
GSTO1_HUMAN	91	27833	3
MYL6B_HUMAN	87	22864	1
RAB14_HUMAN	86	24110	4
RAB6A_HUMAN	56	23692	2
RAB10_HUMAN	56	22755	1
SNP23_HUMAN	86	23682	2
SPC24_HUMAN	85	22521	1
PSMD8_HUMAN	82	39872	2
RAB34_HUMAN	82	29482	3
LRC59_HUMAN	81	35308	1
DCK_HUMAN	80	30841	2
RRP36_HUMAN	78	29862	2
CENPP_HUMAN	77	33429	2
SC22B_HUMAN	77	24806	1
PSA1_HUMAN	77	29822	2
CLIC4_HUMAN	76	28982	3
RL24_HUMAN	74	17882	2
FRG1_HUMAN	74	29439	2
PA1B2_HUMAN	74	25724	2
ETFA_HUMAN	74	35400	5
NUBP2_HUMAN	73	29206	2
CSK2B_HUMAN	70	25268	1
ZNF22_HUMAN	69	26583	1
MLEC_HUMAN	69	32385	1
EXOS2_HUMAN	69	32996	2
COMT_HUMAN	67	30474	2
CY1_HUMAN	67	35741	1
CC124_HUMAN	66	25820	1
PSME1_HUMAN	66	28876	3
TMA16_HUMAN	66	24078	1
GRB2_HUMAN	63	25304	2
PSME3_HUMAN	63	29602	2
GNL1_HUMAN	63	69132	1
ECE2_HUMAN	62	100509	1
RT34_HUMAN	62	25692	1
RB11A_HUMAN	61	24492	1
PDC10_HUMAN	59	24686	2
ID11_HUMAN	58	26645	2
RT02_HUMAN	58	33513	1
KITH_HUMAN	58	26079	1
AKIP1_HUMAN	57	23328	1



DCXR_HUMAN	56	26182	1
MEMO1_HUMAN	56	34111	2
EXOS6_HUMAN	55	28503	2
RNH2A_HUMAN	55	33716	1
EXOS4_HUMAN	55	26652	2
RPAB1_HUMAN	54	24650	2
FBSP1_HUMAN	53	31183	1
MTCH2_HUMAN	52	33936	1
FA49B_HUMAN	51	37010	1
RCD1_HUMAN	50	33952	1
PGAM5_HUMAN	49	32213	2
NOL7_HUMAN	48	29466	1
CDK2_HUMAN	48	34079	1
CN166_HUMAN	48	28165	3
SPF30_HUMAN	48	26866	1
FAH2A_HUMAN	48	34916	1
ML12A_HUMAN	47	19839	1
CLN6_HUMAN	46	36010	1
GNPI1_HUMAN	46	32819	3
GNPI2_HUMAN	18	31293	1
NIT2_HUMAN	45	30988	4
GSTM1_HUMAN	45	25923	2
GSTM5_HUMAN	36	25829	1
GSTM2_HUMAN	30	25899	1
RT07_HUMAN	45	28230	3
VWA8_HUMAN	44	215716	1
TFAM_HUMAN	44	29306	1
TSN_HUMAN	44	26281	1
BAG2_HUMAN	44	23928	1
LSM12_HUMAN	43	21972	1
SPRE_HUMAN	43	28316	1
NDUS3_HUMAN	42	30337	2
RB27A_HUMAN	42	25137	1
6PGL_HUMAN	42	27815	3
DECR2_HUMAN	42	31100	2
COPE_HUMAN	42	34688	2
GET4_HUMAN	42	36709	1
RPIA_HUMAN	42	33533	1
GOLP3_HUMAN	41	34075	1
CASPG_HUMAN	41	20447	1
RS4Y1_HUMAN	40	29665	1
F186A_HUMAN	40	262994	1
PPIA_HUMAN	40	18229	1
BCL2_HUMAN	39	26363	1
LGUL_HUMAN	39	20992	1
RM01_HUMAN	38	37113	2
RM19_HUMAN	38	33799	2
SUMF2_HUMAN	38	33936	2
DR4L1_HUMAN	37	30816	1
RSU1_HUMAN	37	31521	1
SGMR1_HUMAN	36	25169	1
CMBL_HUMAN	36	28372	1
SPF27_HUMAN	36	26229	1
CC71L_HUMAN	36	26473	2
PRKRA_HUMAN	35	34839	2
NUDT8_HUMAN	35	25753	1
KAD2_HUMAN	35	26689	1
COQ5_HUMAN	35	37402	2
RL22_HUMAN	34	14835	1
PIMT_HUMAN	34	24792	1
CC106_HUMAN	34	32241	1
DECR_HUMAN	33	36330	1
RL27A_HUMAN	32	16665	2
GRIA3_HUMAN	32	101662	1
RM45_HUMAN	32	35613	1
RL8_HUMAN	32	28235	1

RAD1_HUMAN	32	32434	1
NIPS1_HUMAN	31	33460	2
ZCH10_HUMAN	31	21125	1
KANK2_HUMAN	31	91916	1
PPIE_HUMAN	31	33695	1
LIMS1_HUMAN	30	39108	1
HAX1_HUMAN	30	31601	1
SUGT1_HUMAN	30	41284	1
RL17_HUMAN	30	21611	1
CF223_HUMAN	30	26211	2
NEK6_HUMAN	30	36261	1
TPC_HUMAN	29	35887	2
MCU_HUMAN	28	40127	1
PSME2_HUMAN	28	27555	1
NC2A_HUMAN	28	22450	1
WDR82_HUMAN	28	35456	1
DTD1_HUMAN	28	23580	1
ZFY16_HUMAN	27	171192	1
ZMAT2_HUMAN	27	23768	1
PSMG1_HUMAN	27	33631	1
ECHD1_HUMAN	27	33848	1
CDK4_HUMAN	27	33936	1
PSB1_HUMAN	27	26700	1
TIPRL_HUMAN	27	31652	1
PBDC1_HUMAN	27	26155	1
MTHSD_HUMAN	27	42488	1
T2FB_HUMAN	26	28420	1
RBM7_HUMAN	26	30485	2
PROZ_HUMAN	26	46026	1
NAA10_HUMAN	25	26613	1
GSTP1_HUMAN	24	23569	1
S28A3_HUMAN	24	77678	1
SSU72_HUMAN	24	23016	1
CS052_HUMAN	24	29500	1
UCK2_HUMAN	24	29452	1
CENPQ_HUMAN	24	30633	1
ZCCHL_HUMAN	24	33967	1
ES1_HUMAN	24	28495	1
TMX1_HUMAN	23	32170	2
CP1B1_HUMAN	21	61263	1
SERPH_HUMAN	23	46525	1
41_HUMAN	23	97528	1
MRGBP_HUMAN	23	22574	1
MP2K1_HUMAN	22	43753	1
IFT46_HUMAN	22	34436	1
EGFL7_HUMAN	22	30739	1
SNAH_HUMAN	22	33667	1
PRS10_HUMAN	22	44430	1
INT2_HUMAN	22	136118	1
ARC_HUMAN	21	45573	1
PCDG9_HUMAN	21	102195	1
AT2B1_HUMAN	21	139637	1
SFXN2_HUMAN	21	36493	1
FA60A_HUMAN	21	25464	1
NUMB_HUMAN	21	71444	1
NMRL1_HUMAN	21	33494	1
GOSR1_HUMAN	20	28709	1
ITFG3_HUMAN	20	60249	1
WDR74_HUMAN	20	42985	1
CD022_HUMAN	20	26853	1
CASP9_HUMAN	20	46993	1
MCAT_HUMAN	20	33264	1
SNP29_HUMAN	20	28953	1
MMAB_HUMAN	20	27713	1
AKP13_HUMAN	19	310381	1
EI2BA_HUMAN	19	33976	1

TPD54_HUMAN	19	22281	1
RGPD1_HUMAN	18	198022	1
H2AV_HUMAN	18	13501	1
SPD16_HUMAN	18	37874	1
H1BP3_HUMAN	18	42868	1
HCDH_HUMAN	17	34329	1
PSA2_HUMAN	17	25996	1
TAM41_HUMAN	16	51946	1
FCSD1_HUMAN	16	77180	1
KAD9_HUMAN	16	222698	1
DYST_HUMAN	15	865259	1
CB047_HUMAN	15	32923	1
MYL9_HUMAN	48	19871	1
MYL1_HUMAN	99	21189	1
H2A2B_HUMAN	189	13987	1
H90B4_HUMAN	35	58855	1
RL15_HUMAN	364	24245	1
RL30_HUMAN	363	12947	2
PROF1_HUMAN	297	15216	3
RL37A_HUMAN	280	10497	1
RL21_HUMAN	239	18610	1
RS15A_HUMAN	237	14944	2
RLA2_HUMAN	224	11658	4
H3C_HUMAN	207	15318	2
MIF_HUMAN	206	12639	2
RS16_HUMAN	202	16549	3
RL38_HUMAN	194	8270	2
PEBB_HUMAN	190	21723	1
RS9_HUMAN	183	22635	3
RS14_HUMAN	160	16434	2
PRDX1_HUMAN	143	22324	3
PRDX2_HUMAN	56	22049	1
PRDX4_HUMAN	42	30749	1
APT_HUMAN	142	19766	2
RL12_HUMAN	139	17979	1
PPAC_HUMAN	137	18487	3
NH2L1_HUMAN	133	14393	2
ARP5L_HUMAN	123	16931	2
HINT1_HUMAN	123	13907	1
RL23A_HUMAN	123	17684	1
RL18A_HUMAN	120	21034	1
RL9_HUMAN	120	21964	1
THIO_HUMAN	115	12015	1
RS12_HUMAN	115	14905	3
SMD1_HUMAN	111	13273	3
ATPO_HUMAN	110	23377	1
RS20_HUMAN	106	13478	1
USMG5_HUMAN	102	6510	1
ARL1_HUMAN	102	20518	1
TEBP_HUMAN	100	18971	1
RS25_HUMAN	97	13791	2
CBX3_HUMAN	95	20969	1
RL27_HUMAN	94	15788	2
R13P3_HUMAN	92	12184	1
ARF1_HUMAN	90	20741	2
ARF4_HUMAN	83	20612	1
RL23_HUMAN	89	14970	2
CALM_HUMAN	84	16827	3
ATP5L_HUMAN	84	11421	1
PDCD6_HUMAN	83	21912	1
RS13_HUMAN	83	17212	1
EIF3K_HUMAN	77	25329	1
CIRBP_HUMAN	75	18637	1
ARL2_HUMAN	75	21036	1
FABP5_HUMAN	74	15497	1
SAR1A_HUMAN	72	22467	1

ABHEB_HUMAN	71	22446	1
RAB1A_HUMAN	69	22891	1
SELH_HUMAN	68	13503	1
PRDX5_HUMAN	64	22301	1
RBM8A_HUMAN	60	19934	1
NUDC_HUMAN	60	38276	1
RS19_HUMAN	59	16051	1
HBA_HUMAN	53	15305	2
ERH_HUMAN	51	12422	1
SPT4H_HUMAN	51	13470	1
CGBP1_HUMAN	50	19094	1
UB2D2_HUMAN	48	16953	1
HMGA1_HUMAN	45	11669	1
RAB18_HUMAN	45	23248	1
KCY_HUMAN	45	22436	1
TCP4_HUMAN	45	14386	2
RS17L_HUMAN	43	15597	1
LLPH_HUMAN	42	15329	1
T126A_HUMAN	42	21742	1
RAB7A_HUMAN	42	23760	1
SRP09_HUMAN	41	10219	1
ARPC4_HUMAN	41	19768	1
CCHL_HUMAN	41	30981	1
GOGA7_HUMAN	40	16042	1
LEG7_HUMAN	39	15123	1
RS18_HUMAN	38	17708	1
RAP1B_HUMAN	38	21040	1
MIP18_HUMAN	38	17766	1
RAB2A_HUMAN	38	23702	1
LTOR1_HUMAN	37	17848	1
NDKB_HUMAN	36	17401	1
TR112_HUMAN	36	14304	1
RASN_HUMAN	35	21501	1
RS30_HUMAN	35	6644	1
NHP2_HUMAN	34	17532	1
UBE2N_HUMAN	33	17184	1
DUS23_HUMAN	32	16806	1
CYTB_HUMAN	32	11190	1
RM22_HUMAN	32	23797	1
RS24_HUMAN	31	15413	1
TRAIP_HUMAN	31	53945	1
RLP24_HUMAN	31	19893	1
BIRC5_HUMAN	30	16720	1
PHF5A_HUMAN	30	13138	1
CQ10B_HUMAN	30	27509	1
CE042_HUMAN	29	365280	1
CBX1_HUMAN	29	21519	1
DEST_HUMAN	29	18950	1
CTBP2_HUMAN	29	49427	1
CX6B1_HUMAN	28	10414	1
PLB1_HUMAN	28	164859	1
CD248_HUMAN	28	82803	1
COPZ1_HUMAN	27	20242	1
COF1_HUMAN	27	18719	1
RS27L_HUMAN	27	9813	1
OR7C1_HUMAN	26	36122	1
PSD10_HUMAN	25	24697	1
SMIM4_HUMAN	24	8691	1
PPIB_HUMAN	23	23785	1
RL32_HUMAN	23	15964	1
TXND2_HUMAN	23	60709	1
IMP3_HUMAN	23	21951	1
SMD3_HUMAN	23	14021	1
TCAF1_HUMAN	23	103144	1
CH10_HUMAN	22	10925	1
NOP16_HUMAN	22	21232	1

FKB1A_HUMAN	22	12000	1
KLOTB_HUMAN	21	120473	1
FA65A_HUMAN	21	133423	1
PTPM1_HUMAN	21	23000	1
SNX12_HUMAN	19	19889	1
NDKA_HUMAN	19	17309	1
TXD17_HUMAN	19	14217	1
MCEE_HUMAN	19	18851	1
MYDGF_HUMAN	18	18897	1
ZEP3_HUMAN	18	261129	1
UB2V1_HUMAN	18	16598	1
RAP2A_HUMAN	18	20830	1
RGF1A_HUMAN	18	55148	1
TMM97_HUMAN	18	21005	1
SIG15_HUMAN	17	36086	1
VWF_HUMAN	17	322401	1
SYSM_HUMAN	16	58702	1
P5CR2_HUMAN	16	33958	1
ZN404_HUMAN	15	67264	1
KIF12_HUMAN	15	71813	1

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**Table S1. Identification procedures of HHT specific binding proteins detected by ESI-Q-TOF MS/MS.**

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The entire protein gel lanes were cut into 8 slices according to the protein marker

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<b>Slice1</b>	<b>Slice2</b>	<b>Slice3</b>	<b>Slice4</b>	<b>Slice5</b>	<b>Slice6</b>	<b>Slice7</b>	<b>Slice8</b>
>100(kDa)	95-100(kDa)	72-95(kDa)	55-72(kDa)	43-55(kDa)	34-43(kDa)	26-34(kDa)	<26(kDa)

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**Table S1. Identification procedures of HHT specific binding proteins detected by ESI-Q-TOF MS/MS.**

removed proteins which were also detected in control (1176 proteins)			
prot_acc	prot_score	prot_mass	prot_sequences_sig
MYH9_HUMAN	26838	227646	79
MYH10_HUMAN	3248	229827	25
MYH11_HUMAN	2595	228054	8
MYH14_HUMAN	1278	228701	4
ACACA_HUMAN	9468	267095	79
SPTB2_HUMAN	3510	275237	54
MY18A_HUMAN	3215	234168	39
SPTN1_HUMAN	3014	285163	56
PRKDC_HUMAN	1917	473749	59
MYO1G_HUMAN	1910	117395	30
PARP1_HUMAN	1676	113811	26
CLH1_HUMAN	1590	193260	32
CLH2_HUMAN	369	189020	8
MYO1F_HUMAN	1589	125507	21
MYO1E_HUMAN	323	127552	3
DHX9_HUMAN	1566	142181	25
FAS_HUMAN	1522	275877	41
IQGA1_HUMAN	1267	189761	34
PYR1_HUMAN	1125	245167	27
HEAT1_HUMAN	992	244382	30
FLII_HUMAN	955	146142	21
K2C1_HUMAN	944	66170	9
GFAP_HUMAN	108	49907	1
NAT10_HUMAN	829	116569	19
ACTG_HUMAN	675	42108	9
ACTB_HUMAN	628	42052	8
POTEE_HUMAN	381	122882	3
ACTBL_HUMAN	237	42318	3
ACTC_HUMAN	222	42334	3
ACTA_HUMAN	219	42381	2
ACTBM_HUMAN	214	42331	2
POTEI_HUMAN	21	122858	1
K1C10_HUMAN	661	59020	9
TOP2B_HUMAN	636	184122	19
TOP2A_HUMAN	479	175017	15
HNRPU_HUMAN	634	91269	7
BAZ1B_HUMAN	617	172392	17
GCN1L_HUMAN	617	294967	25
FLNB_HUMAN	553	280157	24
FLNC_HUMAN	99	293407	2
U520_HUMAN	538	246006	18
RRP5_HUMAN	529	209939	17
SYIC_HUMAN	523	145718	20
MBB1A_HUMAN	512	149731	9
PRP8_HUMAN	499	274738	19
XPO1_HUMAN	495	124447	15
SMCA5_HUMAN	495	122513	14
SMCA1_HUMAN	137	123211	4
U5S1_HUMAN	479	110336	14
ACTN1_HUMAN	470	103563	11
CNTRL_HUMAN	468	269860	13
FSCN1_HUMAN	459	55123	9
SPB1_HUMAN	455	96898	9
NEB2_HUMAN	448	89309	10
NUCL_HUMAN	441	76625	6
MSH6_HUMAN	438	154514	15
DYHC1_HUMAN	433	534809	20
K22E_HUMAN	430	65678	5
K2C6A_HUMAN	151	60293	3

K2C5_HUMAN	122	62568	2
K22O_HUMAN	90	66370	1
SF3B3_HUMAN	427	136575	11
XPO2_HUMAN	422	111145	12
H2B1B_HUMAN	192	13942	2
H2B1A_HUMAN	106	14159	1
NEK10_HUMAN	47	134145	1
CU129_HUMAN	40	15541	1
LPPRC_HUMAN	407	159003	16
UBA1_HUMAN	406	118858	9
ENPL_HUMAN	401	92696	9
SMHD1_HUMAN	373	227942	7
TLN1_HUMAN	354	271766	8
PUR2_HUMAN	352	108953	13
TBA1A_HUMAN	338	50788	6
TBA3C_HUMAN	161	50612	4
TBA4A_HUMAN	108	50634	3
TBA8_HUMAN	42	50746	2
TBA4B_HUMAN	20	27819	1
ACLY_HUMAN	338	121674	10
MATR3_HUMAN	335	95078	4
MYO5A_HUMAN	329	216979	10
UT14A_HUMAN	324	88095	7
UT14C_HUMAN	118	87249	3
C1TC_HUMAN	318	102180	10
MCM3_HUMAN	314	91551	7
SYLC_HUMAN	307	135577	12
NOG2_HUMAN	306	83831	6
DHX30_HUMAN	305	134938	15
TOP1_HUMAN	299	91125	8
TOP1M_HUMAN	91	70398	2
COPA_HUMAN	299	139797	14
AT2A2_HUMAN	297	116336	7
AT2A1_HUMAN	64	111550	2
H2AY_HUMAN	297	39764	7
H2AW_HUMAN	92	40261	1
RRP12_HUMAN	287	145037	8
NOL6_HUMAN	284	128368	8
RFC1_HUMAN	278	128688	6
TBB5_HUMAN	276	50095	7
TBB2A_HUMAN	234	50274	5
TBB3_HUMAN	233	50856	4
TBB4A_HUMAN	211	50010	5
TBB1_HUMAN	178	50865	2
CHD4_HUMAN	276	219407	8
CHD5_HUMAN	72	224506	2
WDR3_HUMAN	273	107115	10
UTP20_HUMAN	270	320805	11
SF3B1_HUMAN	268	146479	11
DDX21_HUMAN	268	87804	8
DDX50_HUMAN	87	83084	2
H4_HUMAN	257	11360	2
WDR36_HUMAN	256	106282	10
XPOT_HUMAN	255	111148	5
PO210_HUMAN	249	205895	6
SMC3_HUMAN	248	141853	9
SYEP_HUMAN	247	172080	9
TDIF2_HUMAN	244	84817	6
NOP2_HUMAN	243	89589	5
HS90B_HUMAN	236	83554	8
HS90A_HUMAN	187	85006	4
TRAP1_HUMAN	115	80345	1
HS902_HUMAN	48	39454	2



H90B2_HUMAN	43	44492	1
H90B3_HUMAN	37	68624	3
HS904_HUMAN	19	47796	1
ATAD2_HUMAN	234	159825	10
ESYT1_HUMAN	233	123293	6
PWP2_HUMAN	228	103357	6
GANAB_HUMAN	225	107263	8
NOP14_HUMAN	225	98292	7
NPA1P_HUMAN	220	256508	11
K1C9_HUMAN	218	62255	6
DNLI3_HUMAN	217	114317	8
PELP1_HUMAN	212	120879	7
RPB2_HUMAN	209	135236	5
COPB_HUMAN	207	108214	9
NUMA1_HUMAN	205	239199	10
CROCC_HUMAN	204	228787	8
RENT1_HUMAN	202	125578	9
HSP74_HUMAN	201	95127	5
HS105_HUMAN	187	97716	8
HS74L_HUMAN	36	95479	2
CE128_HUMAN	196	128565	5
PERM_HUMAN	188	84784	7
SP16H_HUMAN	187	120409	10
SUGP2_HUMAN	186	121044	9
KI67_HUMAN	184	360698	6
ILF3_HUMAN	183	95678	5
STRBP_HUMAN	23	74290	1
AT1A1_HUMAN	182	114135	6
AT1A3_HUMAN	113	113102	3
GELS_HUMAN	179	86043	7
PSMD1_HUMAN	174	106795	3
MCM2_HUMAN	172	102516	7
DSRAD_HUMAN	162	137178	6
UN13D_HUMAN	160	124288	5
EF2_HUMAN	154	96246	7
H15_HUMAN	153	22566	2
SIPA1_HUMAN	152	112821	4
SMC2_HUMAN	152	136085	8
KIF23_HUMAN	151	111016	6
UHRF1_HUMAN	150	91297	6
SMC1A_HUMAN	140	143771	8
EF1A1_HUMAN	138	50451	4
EF1A2_HUMAN	31	50780	2
MYPT1_HUMAN	135	115610	5
PP12C_HUMAN	36	85286	1
SYMC_HUMAN	134	102249	5
CND3_HUMAN	133	115345	3
BOP1_HUMAN	133	84261	5
MSH2_HUMAN	131	105418	4
HNRL1_HUMAN	129	96250	3
HNRL2_HUMAN	129	85622	4
MPRIP_HUMAN	123	117260	7
CEBPZ_HUMAN	118	121526	3
RBM19_HUMAN	116	107722	4
PRP6_HUMAN	112	107656	5
SND1_HUMAN	109	102618	4
PDS5A_HUMAN	107	152274	2
WDR75_HUMAN	105	95921	4
MCM4_HUMAN	105	97068	4
MCM6_HUMAN	102	93801	2
EIF3B_HUMAN	102	92823	3
BMS1_HUMAN	101	146571	4
MCCA_HUMAN	99	80935	3

PDIA1_HUMAN	99	57480	3
SYVC_HUMAN	99	141642	4
CHD1L_HUMAN	97	101491	4
STOM_HUMAN	95	31882	1
RS27A_HUMAN	95	18296	1
COPG1_HUMAN	93	98967	5
NPM_HUMAN	93	32726	2
DDB1_HUMAN	92	128142	4
PYGL_HUMAN	90	97486	3
PYGB_HUMAN	19	97319	1
ALBU_HUMAN	89	71317	2
NOC3L_HUMAN	89	92946	2
TBL3_HUMAN	89	90347	4
COR1C_HUMAN	88	53899	2
RSF1_HUMAN	87	165260	3
ELYS_HUMAN	83	254223	3
NOP56_HUMAN	82	66408	2
RPB1_HUMAN	79	218408	3
RBM28_HUMAN	79	86198	2
DDX23_HUMAN	78	95866	3
MPP10_HUMAN	74	78930	3
ITPR2_HUMAN	21	311060	1
PR40A_HUMAN	72	109022	2
ADT3_HUMAN	71	33073	3
ADT2_HUMAN	60	33059	3
ADT1_HUMAN	36	33271	1
RAD50_HUMAN	70	154823	3
SART3_HUMAN	69	110721	4
CP131_HUMAN	67	122531	1
NSUN2_HUMAN	66	87214	4
NOC2L_HUMAN	66	85721	1
DDX54_HUMAN	62	98819	5
ESF1_HUMAN	60	99134	2
KDM1A_HUMAN	59	93358	2
HNRPM_HUMAN	58	77749	2
TCOF_HUMAN	57	152243	1
SF3B2_HUMAN	55	100279	1
RL1D1_HUMAN	53	55167	1
K1C14_HUMAN	53	51872	1
DDX27_HUMAN	53	90292	2
MDC1_HUMAN	52	227669	4
RL6_HUMAN	52	32765	1
COPB2_HUMAN	51	103278	4
NOP58_HUMAN	50	60054	2
SFPQ_HUMAN	49	76216	2
MCCB_HUMAN	49	61808	5
TFR1_HUMAN	49	85274	2
DNMT1_HUMAN	49	185388	2
SR140_HUMAN	49	118675	3
DYN1_HUMAN	35	97746	1
F120A_HUMAN	48	123008	3
SAFB1_HUMAN	48	103036	2
SAFB2_HUMAN	42	107921	1
SMC4_HUMAN	48	147775	3
RBM5_HUMAN	47	92610	1
CENPC_HUMAN	47	107396	1
SVIL_HUMAN	46	249417	2
AKAP9_HUMAN	45	455725	1
H2A1B_HUMAN	45	14127	1
IF2P_HUMAN	44	139198	2
XRCC6_HUMAN	41	70084	3
XRCC5_HUMAN	41	83222	4
HP1B3_HUMAN	41	61454	1

HNRPC_HUMAN	40	33707	2
HNRC1_HUMAN	39	32180	1
HSP72_HUMAN	40	70263	1
ABCF1_HUMAN	39	96323	2
TIF1B_HUMAN	39	90261	2
TERA_HUMAN	39	89950	1
PFKAL_HUMAN	38	85762	1
BRPF1_HUMAN	38	139066	1
CHERP_HUMAN	38	104150	2
SK2L2_HUMAN	38	118756	2
HNRPK_HUMAN	37	51230	1
RPN2_HUMAN	37	69355	1
PDC6I_HUMAN	37	96590	2
ACINU_HUMAN	36	152170	2
HACD3_HUMAN	36	43360	1
THOC2_HUMAN	36	184541	2
TECR_HUMAN	36	36410	1
HNRPF_HUMAN	34	45985	1
C170L_HUMAN	34	32628	1
UGGG1_HUMAN	33	177819	1
MAPK2_HUMAN	32	45938	1
STAR7_HUMAN	32	43257	1
SHIP1_HUMAN	32	134121	1
DDX24_HUMAN	31	96899	1
CHD6_HUMAN	23	308071	1
DDX10_HUMAN	30	101168	2
COR1A_HUMAN	30	51678	1
RB15B_HUMAN	29	97432	1
RL13_HUMAN	29	24304	1
WIZ_HUMAN	29	180217	1
DDX5_HUMAN	29	69618	1
DDX3X_HUMAN	29	73597	1
ATD2B_HUMAN	29	166351	1
MYL6_HUMAN	28	17090	1
DKC1_HUMAN	28	58094	1
TPM1_HUMAN	28	32746	1
CD44_HUMAN	25	82001	1
PLCA_HUMAN	24	32038	1
MAP4_HUMAN	23	121443	1
4F2_HUMAN	21	68180	1
SPT6H_HUMAN	21	200203	1
PININ_HUMAN	20	81679	1
HBB_HUMAN	20	16102	1
RPC2_HUMAN	19	129242	1
DX39A_HUMAN	18	49611	1
NDUAA_HUMAN	17	41067	1
KPYM_HUMAN	17	58470	1
RB_HUMAN	17	106947	1
SMRC1_HUMAN	17	123303	1
CLIC1_HUMAN	16	27248	1
MA7D1_HUMAN	15	93106	1
RBM25_HUMAN	15	100467	1
HS905_HUMAN	161	38942	2
XPP3_HUMAN	113	57624	1
PERE_HUMAN	65	81958	1
IMB1_HUMAN	2721	98420	12
MCM7_HUMAN	2311	81884	22
RN123_HUMAN	32	149960	1
PFKAP_HUMAN	2163	86454	16
PFKAM_HUMAN	138	85984	1
K2C79_HUMAN	319	58085	2
K2C1B_HUMAN	245	62149	1
DHX15_HUMAN	1451	91673	18

DHX16_HUMAN	42	119874	1
KATL2_HUMAN	51	61557	1
MCM5_HUMAN	886	83031	16
PSMD2_HUMAN	850	100877	11
POTEF_HUMAN	222	123020	2
PYGM_HUMAN	208	97487	4
SYTC_HUMAN	595	84294	15
NOL11_HUMAN	563	82041	11
SUZ12_HUMAN	557	83744	6
TEX10_HUMAN	547	106349	11
H2B1C_HUMAN	495	13898	2
H2B2C_HUMAN	53	21971	1
AATF_HUMAN	526	63208	12
EFR3A_HUMAN	513	93777	13
SSRP1_HUMAN	496	81367	10
HNRPR_HUMAN	493	71184	9
HNRPQ_HUMAN	81	69788	4
SYQ_HUMAN	457	88655	13
CALX_HUMAN	452	67982	6
RRP1B_HUMAN	427	84774	6
MIC60_HUMAN	425	84026	8
TNPO1_HUMAN	396	103771	12
TNPO2_HUMAN	180	102862	3
LAS1L_HUMAN	386	83982	11
TBA1B_HUMAN	376	50804	8
ODFP2_HUMAN	371	96140	10
TRFM_HUMAN	360	81760	8
ESYT2_HUMAN	359	102807	11
UBF1_HUMAN	355	89692	8
VPS35_HUMAN	354	92447	8
DDX1_HUMAN	311	83349	11
IF16_HUMAN	311	88656	6
IFIX_HUMAN	159	55316	2
STAT3_HUMAN	292	88810	9
NUP93_HUMAN	290	93943	11
MOGS_HUMAN	277	92032	5
DDX51_HUMAN	261	72983	8
TBK1_HUMAN	257	84216	8
NCBP1_HUMAN	242	92864	8
DAAF5_HUMAN	214	94774	9
H2A1A_HUMAN	70	14225	1
LIMA1_HUMAN	198	85630	4
PLOD1_HUMAN	193	84068	7
GYS1_HUMAN	183	84531	5
ZW10_HUMAN	183	89628	7
HSP7C_HUMAN	181	71082	6
GRP78_HUMAN	80	72402	3
HS71L_HUMAN	97	70730	2
OPA1_HUMAN	180	112131	9
STA5A_HUMAN	179	91161	6
PNPT1_HUMAN	169	86524	6
TTC27_HUMAN	155	97883	4
IF4G2_HUMAN	155	102810	8
P5CS_HUMAN	154	87989	7
CUL4A_HUMAN	151	88138	4
CSDE1_HUMAN	149	89684	8
KS6A4_HUMAN	146	86122	5
TNPO3_HUMAN	145	105961	6
K1C15_HUMAN	53	49409	1
GLU2B_HUMAN	132	60357	4
H12_HUMAN	128	21352	1
ARHG6_HUMAN	124	88698	5
ARHG7_HUMAN	68	90868	2

LOXL3_HUMAN	123	85280	4
FUBP2_HUMAN	122	73355	6
MRE11_HUMAN	121	80885	4
DDX18_HUMAN	118	75702	4
XRCC1_HUMAN	112	69776	3
AKP8L_HUMAN	112	72060	3
EZH2_HUMAN	104	87247	3
RPA34_HUMAN	104	55236	7
WRIP1_HUMAN	100	72829	6
AP1G1_HUMAN	98	92148	2
NUP98_HUMAN	96	198597	3
DDX17_HUMAN	92	80906	3
RIR1_HUMAN	87	90925	4
ARBK1_HUMAN	85	80321	3
ARBK2_HUMAN	47	80685	1
RUNX1_HUMAN	84	48877	2
DDX31_HUMAN	80	94770	3
SDA1_HUMAN	80	80277	4
SC23B_HUMAN	65	87393	3
UFL1_HUMAN	79	89996	6
NOL10_HUMAN	76	80822	3
CUL1_HUMAN	76	90306	3
PLCZ1_HUMAN	68	70880	1
NOL9_HUMAN	67	80527	2
ACON_HUMAN	56	86113	2
IL1AP_HUMAN	50	66118	3
CEP78_HUMAN	48	77204	3
LETM1_HUMAN	47	83986	2
GNL3_HUMAN	45	62468	1
EZRI_HUMAN	44	69484	2
PESC_HUMAN	43	68359	2
KDM1B_HUMAN	43	93465	2
MTG8_HUMAN	42	68323	2
TRI41_HUMAN	40	72708	2
THOC1_HUMAN	38	76360	2
MBD1_HUMAN	38	68788	2
SCAFB_HUMAN	34	166319	1
MTA1_HUMAN	34	81420	1
WBP11_HUMAN	33	69954	2
FUS_HUMAN	33	53622	1
TF3C4_HUMAN	32	93235	1
PRPF3_HUMAN	31	77652	1
SYC2L_HUMAN	30	94054	1
EWS_HUMAN	30	68721	1
KAT7_HUMAN	30	71282	1
LRIF1_HUMAN	29	84744	1
NOG1_HUMAN	28	74317	1
SUV3_HUMAN	28	88791	2
TTL12_HUMAN	28	75154	2
THRB_HUMAN	25	71475	1
ARNT2_HUMAN	22	79268	1
RL4_HUMAN	22	47953	2
NATD1_HUMAN	21	13195	1
PSIP1_HUMAN	20	60181	1
GTPB1_HUMAN	19	73035	1
ZFP91_HUMAN	19	64261	1
FOKK1_HUMAN	19	75867	1
CCDC9_HUMAN	18	59781	1
RL18_HUMAN	18	21735	1
PML_HUMAN	18	99143	1
ATPA_HUMAN	18	59828	1
ARI3B_HUMAN	17	60714	1
C4BPA_HUMAN	17	69042	1

RA1L2_HUMAN	16	34375	1
HSP71_HUMAN	888	70294	12
HSP76_HUMAN	530	71440	4
GRP75_HUMAN	1891	73920	14
DDX3Y_HUMAN	492	73564	7
ANXA6_HUMAN	1187	76168	15
PABP1_HUMAN	1153	70854	11
PABP4_HUMAN	396	71080	4
PABP3_HUMAN	606	70215	5
K0020_HUMAN	813	73937	16
GRM1C_HUMAN	65	76273	1
SYRC_HUMAN	801	76129	16
MOES_HUMAN	796	67892	15
RADI_HUMAN	297	68635	6
IF2B2_HUMAN	703	66195	11
IF2B3_HUMAN	409	64008	10
IF2B1_HUMAN	83	63783	2
GLGB_HUMAN	655	80879	14
ECHA_HUMAN	616	83688	12
RPN1_HUMAN	581	68641	13
WDR46_HUMAN	533	68485	12
BTK_HUMAN	523	76917	11
PYRG1_HUMAN	519	67332	10
RBM14_HUMAN	509	69620	6
URP2_HUMAN	500	76475	14
NSF_HUMAN	475	83055	10
TKT_HUMAN	470	68519	9
CIR1A_HUMAN	466	77526	8
GT251_HUMAN	432	71933	9
LMNB1_HUMAN	431	66653	7
PCKGM_HUMAN	378	71483	12
ACSL4_HUMAN	376	80220	11
ACSL3_HUMAN	108	81338	3
AFG32_HUMAN	373	88984	8
MTA2_HUMAN	363	75717	9
WDR43_HUMAN	323	75813	7
RGAP1_HUMAN	320	71666	8
SRP72_HUMAN	313	75130	9
RBM39_HUMAN	298	59628	5
TBB6_HUMAN	188	50281	4
RFA1_HUMAN	286	68723	10
DNM1L_HUMAN	278	82339	8
SYK_HUMAN	277	68461	11
ADAS_HUMAN	274	73664	7
NUP85_HUMAN	262	75826	7
RBP56_HUMAN	251	62021	3
PDIA4_HUMAN	247	73229	8
ZN326_HUMAN	216	65955	4
TBC15_HUMAN	208	80352	6
GUAA_HUMAN	205	77408	6
KIF22_HUMAN	186	73616	5
RAVR1_HUMAN	186	64464	3
FXR1_HUMAN	183	70020	5
NDUS1_HUMAN	166	80443	8
FBX46_HUMAN	163	65731	6
CPSF6_HUMAN	163	59344	5
E2AK2_HUMAN	159	62512	4
VATA_HUMAN	156	68660	3
PARN_HUMAN	153	73918	4
GNL3L_HUMAN	144	66216	7
DDX41_HUMAN	142	70477	5
UTP18_HUMAN	141	62421	2
ASM3B_HUMAN	138	51237	5

MTF2_HUMAN	133	68374	6
LMNB2_HUMAN	133	67762	5
CENPB_HUMAN	132	65531	3
HNRPL_HUMAN	129	64720	4
DHX33_HUMAN	129	79565	4
GFPT1_HUMAN	127	79555	6
ANM5_HUMAN	124	73322	5
NOP9_HUMAN	123	70136	4
ABCF2_HUMAN	119	71815	6
RED_HUMAN	117	65676	4
EIF3D_HUMAN	108	64560	3
COIL_HUMAN	102	63254	4
SAS10_HUMAN	88	54639	2
DDX55_HUMAN	82	69073	2
LAP2A_HUMAN	79	76016	3
LAP2B_HUMAN	24	50696	1
DDX52_HUMAN	79	67798	4
MECP2_HUMAN	77	52580	2
NO66_HUMAN	76	71384	3
ZCCHV_HUMAN	75	103135	4
KEAP1_HUMAN	73	71160	1
ARHG8_HUMAN	69	68154	1
RPAP3_HUMAN	68	75957	2
MET13_HUMAN	67	79573	3
LARP7_HUMAN	66	67143	2
MIRO1_HUMAN	63	71765	1
PAF1_HUMAN	61	60110	3
ACS2L_HUMAN	60	75664	2
MEN1_HUMAN	59	68380	2
FUBP1_HUMAN	59	67690	4
FUBP3_HUMAN	27	61944	1
VTNC_HUMAN	58	55069	1
PWP1_HUMAN	57	56363	3
CRNL1_HUMAN	51	100902	2
DAF_HUMAN	50	42400	2
SPA5L_HUMAN	49	81515	3
ZN512_HUMAN	46	65724	2
IF4A1_HUMAN	45	46353	1
ATD3A_HUMAN	45	71610	1
HNRH1_HUMAN	43	49484	1
MFAP1_HUMAN	43	51927	2
TCPG_HUMAN	39	61066	2
SNW1_HUMAN	35	61514	1
UTP6_HUMAN	33	70776	1
SBP1_HUMAN	33	52928	1
HSPB1_HUMAN	33	22826	1
SCML2_HUMAN	30	78063	1
STIP1_HUMAN	28	63227	1
RS4X_HUMAN	27	29807	1
PDE12_HUMAN	27	68221	1
FSIP2_HUMAN	27	785878	1
SEPT9_HUMAN	26	65646	2
SATB1_HUMAN	24	86246	2
PDIP2_HUMAN	22	42235	1
KHDR1_HUMAN	21	48311	1
MDHM_HUMAN	20	35937	1
ABCE1_HUMAN	19	68240	1
SPDE1_HUMAN	17	41041	1
DHB4_HUMAN	17	80092	1
CH60_HUMAN	2272	61187	23
KPYR_HUMAN	96	62191	1
TBAL3_HUMAN	92	50675	1
TCPD_HUMAN	1233	58401	14

TCPA_HUMAN	1229	60819	17
TCPQ_HUMAN	1167	60153	17
TCPE_HUMAN	822	60089	14
P4HA1_HUMAN	821	61296	10
TBB8L_HUMAN	356	50168	3
TCPH_HUMAN	808	59842	12
NOC4L_HUMAN	768	58830	15
ATD3C_HUMAN	464	46635	6
ATD3B_HUMAN	258	73098	6
TCPZ_HUMAN	725	58444	12
TCPW_HUMAN	198	58355	3
CPNE2_HUMAN	656	61835	11
CPNE3_HUMAN	93	60947	1
U2AF2_HUMAN	630	53809	9
G6PI_HUMAN	594	63335	8
PUR9_HUMAN	585	65089	16
EIF3L_HUMAN	534	66912	12
IMA1_HUMAN	508	58168	9
SYNC_HUMAN	490	63758	12
UTP15_HUMAN	477	58721	7
AP2S1_HUMAN	77	17178	1
TBL1R_HUMAN	370	56187	8
FKBP4_HUMAN	366	52057	9
PSMD3_HUMAN	351	61054	11
RTCB_HUMAN	339	55688	9
CGAS_HUMAN	328	59462	9
PDIA3_HUMAN	323	57146	8
CALR_HUMAN	321	48283	5
IMA5_HUMAN	260	60925	7
EHD1_HUMAN	315	60646	10
EHD3_HUMAN	64	60906	3
NCLN_HUMAN	314	63106	10
LRRF2_HUMAN	309	82349	5
SF3A3_HUMAN	307	59154	5
MAOM_HUMAN	299	66029	9
SYYC_HUMAN	291	59448	8
SNUT2_HUMAN	281	65739	11
2AAB_HUMAN	149	66799	7
PRS8_HUMAN	43	45768	1
NONO_HUMAN	248	54311	5
RCC2_HUMAN	244	56790	8
AAAS_HUMAN	237	60392	9
UBP14_HUMAN	237	56489	4
PTBP1_HUMAN	236	57357	8
DDX28_HUMAN	236	59773	7
EI2BD_HUMAN	230	58035	6
NELFD_HUMAN	210	66832	6
LYN_HUMAN	206	58993	9
YES_HUMAN	116	61276	6
IMDH2_HUMAN	206	56226	5
IRAK3_HUMAN	201	68864	8
HDAC1_HUMAN	199	55638	5
HDAC2_HUMAN	170	55899	4
CCD86_HUMAN	197	40325	4
U3IP2_HUMAN	197	52436	2
GRWD1_HUMAN	194	49787	7
G3BP1_HUMAN	178	52189	7
DD19A_HUMAN	178	54397	3
DDX56_HUMAN	167	62007	6
WDR1_HUMAN	165	66836	5
CEP63_HUMAN	160	81863	4
GSCR2_HUMAN	160	54470	4
PRP19_HUMAN	157	55603	7



CTSL2_HUMAN	153	53137	5
SCOT1_HUMAN	151	56578	6
RD23B_HUMAN	151	43202	5
SERA_HUMAN	144	57356	5
NELFB_HUMAN	143	66283	3
NMT1_HUMAN	142	57112	4
EXOS9_HUMAN	140	49545	3
ADCK3_HUMAN	133	72418	5
PUF60_HUMAN	130	60009	7
ETV6_HUMAN	130	53252	3
SYSC_HUMAN	129	59253	4
RU17_HUMAN	118	51583	3
STAU1_HUMAN	117	63428	7
SSF1_HUMAN	116	53446	4
SMRD2_HUMAN	115	59112	5
DLDH_HUMAN	115	54713	2
VPS4B_HUMAN	114	49443	3
FIGL1_HUMAN	86	74829	1
CATA_HUMAN	110	59947	3
RCOR3_HUMAN	47	55661	2
HNRH2_HUMAN	59	49517	1
DCTN4_HUMAN	94	53216	4
APC7_HUMAN	90	67440	2
RRP8_HUMAN	85	51424	5
IKZF1_HUMAN	85	58632	2
SF3A2_HUMAN	77	49338	3
KHDR2_HUMAN	21	38904	1
K1C19_HUMAN	64	44079	2
YBOX3_HUMAN	68	40066	1
CPSF7_HUMAN	57	52189	3
MATK_HUMAN	56	57003	4
ELF1_HUMAN	53	67684	2
MA2B1_HUMAN	53	114357	2
DHAK_HUMAN	48	59252	4
GRP2_HUMAN	46	70060	2
PRP31_HUMAN	45	55649	1
SUH_HUMAN	43	56343	2
DEK_HUMAN	42	42933	4
TOE1_HUMAN	39	57367	3
ANT3_HUMAN	37	53025	1
RCC1_HUMAN	35	45397	1
SNX27_HUMAN	32	61854	1
FBRL_HUMAN	29	33877	1
RL7A_HUMAN	26	30148	1
ATPB_HUMAN	23	56525	1
MTND_HUMAN	20	21542	1
HMCS1_HUMAN	20	57828	1
RL7_HUMAN	19	29264	1
SRFB1_HUMAN	19	48718	1
HNRPD_HUMAN	17	38581	1
CE290_HUMAN	16	290892	1
PLMN_HUMAN	16	93247	1
PGK1_HUMAN	453	44985	2
YBOX1_HUMAN	274	35903	2
RUVB2_HUMAN	271	51296	6
IDHP_HUMAN	228	51333	3
EBP2_HUMAN	200	34887	3
RBMX_HUMAN	165	42306	2
RMXL1_HUMAN	152	42173	1
RMXL2_HUMAN	37	42959	1
ENOA_HUMAN	163	47481	1
ARP3_HUMAN	141	47797	5
VRK1_HUMAN	122	45790	3

DNJA1_HUMAN	116	45581	1
BZW1_HUMAN	114	48184	2
SYDC_HUMAN	108	57499	2
ARP2_HUMAN	103	45017	3
RBBP4_HUMAN	99	47911	3
METK2_HUMAN	97	43975	3
METK1_HUMAN	38	44190	1
CG025_HUMAN	95	46707	1
THIL_HUMAN	92	45456	2
ODO2_HUMAN	91	49067	2
UMPS_HUMAN	90	52645	1
RRP15_HUMAN	83	31636	2
ILEU_HUMAN	83	42829	2
Z355P_HUMAN	78	51424	1
MAK16_HUMAN	75	35689	2
EIF3F_HUMAN	74	37654	2
TMOD3_HUMAN	71	39741	3
TMOD1_HUMAN	39	40658	1
PUR6_HUMAN	67	47790	3
STK26_HUMAN	67	46785	2
S10A8_HUMAN	67	10885	1
ILF2_HUMAN	66	43263	1
PA2G4_HUMAN	65	44101	2
F10A1_HUMAN	65	41477	1
RTN4_HUMAN	64	130250	1
GNAS1_HUMAN	64	111697	2
DHE3_HUMAN	61	61701	1
DNJA2_HUMAN	56	46344	1
ROA2_HUMAN	54	37464	1
EFTU_HUMAN	53	49852	1
EIF3E_HUMAN	52	52587	1
FLOT2_HUMAN	52	47434	1
GNAI2_HUMAN	49	40995	1
PSD11_HUMAN	46	47719	2
MRRP1_HUMAN	44	47602	1
BYST_HUMAN	44	49798	1
CP51A_HUMAN	40	57169	1
GALK1_HUMAN	39	42702	3
IF4A3_HUMAN	39	47126	1
PDIA6_HUMAN	39	48490	1
WDR12_HUMAN	39	48191	1
TRI27_HUMAN	38	59763	1
RL3_HUMAN	37	46365	1
LA_HUMAN	36	46979	1
RPAC1_HUMAN	35	39453	1
CI114_HUMAN	34	42496	1
FLOT1_HUMAN	29	47554	2
DAPK3_HUMAN	28	52674	1
EF1G_HUMAN	28	50429	1
DDX47_HUMAN	27	50900	1
AMPL_HUMAN	26	56530	1
MKL1_HUMAN	25	99257	1
MMTA2_HUMAN	24	29679	1
WDR55_HUMAN	24	42557	1
KRR1_HUMAN	24	43866	1
DCA13_HUMAN	21	51996	1
PSMD6_HUMAN	21	45787	1
GSK3B_HUMAN	20	47228	1
RBM34_HUMAN	18	48649	1
CQ080_HUMAN	16	68356	1
MB211_HUMAN	22	41671	1
PP1A_HUMAN	965	38229	9
PP1G_HUMAN	807	37701	8
PP1B_HUMAN	780	37961	7
GNAI3_HUMAN	377	41076	4
GNA13_HUMAN	75	44364	2

GNAI1_HUMAN	292	40905	2
FBLL1_HUMAN	415	34711	2
G3P_HUMAN	792	36201	8
RLA0_HUMAN	697	34423	6
RLA0L_HUMAN	388	34514	3
ROA3_HUMAN	621	39799	7
MK67I_HUMAN	507	34372	9
EF1D_HUMAN	425	31217	6
EIF3I_HUMAN	372	36878	6
LDHB_HUMAN	362	36900	5
SERC_HUMAN	320	40796	8
PHB2_HUMAN	319	33276	6
ARC1B_HUMAN	306	41722	5
RFC5_HUMAN	305	38757	10
NACAM_HUMAN	283	205979	4
CAZA1_HUMAN	267	33073	7
CAZA2_HUMAN	157	33157	4
CDK6_HUMAN	266	37257	5
DCAF7_HUMAN	237	39528	2
RFC4_HUMAN	237	40170	4
CENPV_HUMAN	226	30383	4
RCL1_HUMAN	221	41273	6
HNRDL_HUMAN	216	46580	6
RALY_HUMAN	213	32501	2
RALYL_HUMAN	115	32425	1
LDHA_HUMAN	207	36950	6
TEAD1_HUMAN	25	48314	1
NGDN_HUMAN	205	35872	2
HNRH3_HUMAN	201	36960	2
PSD13_HUMAN	198	43203	7
VDAC1_HUMAN	195	30868	5
VDAC3_HUMAN	74	30981	1
ROAA_HUMAN	194	36316	5
PCBP2_HUMAN	193	38955	4
PCBP3_HUMAN	186	39725	3
PCBP1_HUMAN	183	37987	4
RL5_HUMAN	186	34569	5
TRA2B_HUMAN	181	33760	2
LEG9_HUMAN	179	39835	3
LEG9B_HUMAN	111	39977	2
ABT1_HUMAN	177	31117	5
BACH_HUMAN	171	42454	5
VDAC2_HUMAN	165	32060	4
CDCA5_HUMAN	164	27755	3
PRPS2_HUMAN	163	35146	4
PRPS1_HUMAN	146	35325	3
PRPS3_HUMAN	100	35387	2
RBM4_HUMAN	158	40688	2
RBM4B_HUMAN	67	40466	2
RRP7A_HUMAN	156	32485	4
ODPB_HUMAN	153	39550	5
CCNY_HUMAN	149	39825	5
IF2A_HUMAN	147	36374	4
ALDOA_HUMAN	144	39851	2
IMP4_HUMAN	144	33850	3
AURKB_HUMAN	137	39571	5
DNJB1_HUMAN	137	38191	5
IDH3A_HUMAN	127	40022	3
ADPPT_HUMAN	123	35981	4
SNR40_HUMAN	123	39742	6
RPF2_HUMAN	122	35731	4
AATM_HUMAN	119	47886	3
STING_HUMAN	118	42736	2
PSMD7_HUMAN	118	37060	3
TRA2A_HUMAN	118	32726	2
GNAQ_HUMAN	112	42400	3

GNA11_HUMAN	103	42382	2
DIM1_HUMAN	111	35499	5
ROA0_HUMAN	111	30993	4
AIMP2_HUMAN	109	35668	3
MTNA_HUMAN	107	39467	1
AN32E_HUMAN	105	30902	3
SETLP_HUMAN	104	34861	2
RFC3_HUMAN	101	41328	4
GBB2_HUMAN	87	38048	1
AAKG1_HUMAN	97	37727	3
ADHX_HUMAN	94	40554	2
PCID2_HUMAN	94	46627	4
AIP_HUMAN	94	38068	4
SRSF5_HUMAN	91	31359	2
RNPS1_HUMAN	90	34188	2
CDK9_HUMAN	89	43149	3
OTUB1_HUMAN	85	31492	3
NB5R3_HUMAN	82	34441	1
CA131_HUMAN	78	32804	2
TXNL1_HUMAN	76	32630	1
PARVG_HUMAN	75	37576	2
ANM1_HUMAN	73	42059	2
AK1A1_HUMAN	73	36892	3
MTDC_HUMAN	72	38042	3
SGTA_HUMAN	72	34270	1
NDUA9_HUMAN	69	42654	2
U2AF1_HUMAN	69	28368	1
PSDE_HUMAN	68	34726	2
APEX1_HUMAN	65	35931	1
PCNA_HUMAN	65	29092	3
IPYR_HUMAN	64	33095	3
IPYR2_HUMAN	49	38409	1
RT29_HUMAN	64	45880	3
PGK2_HUMAN	59	45166	2
ANXA2_HUMAN	63	38808	4
FPPS_HUMAN	62	48758	3
LC7L2_HUMAN	61	46942	3
SRS10_HUMAN	61	31339	2
SRS12_HUMAN	49	30665	1
ISY1_HUMAN	60	33029	1
PR38A_HUMAN	59	37681	1
MO4L1_HUMAN	59	41562	3
MO4L2_HUMAN	54	32345	1
KCRB_HUMAN	58	42902	2
THOC3_HUMAN	57	39431	2
TALDO_HUMAN	56	37688	1
MK14_HUMAN	56	41495	2
BRX1_HUMAN	52	41660	3
ARK72_HUMAN	52	40020	1
RFC2_HUMAN	50	39588	1
UCHL5_HUMAN	50	37868	2
PINX1_HUMAN	50	37183	1
ARHG1_HUMAN	50	103056	2
ODPA_HUMAN	48	43952	2
STRAP_HUMAN	47	38756	2
SPI1_HUMAN	47	31177	2
NTH_HUMAN	45	34767	1
DJB11_HUMAN	42	40774	1
NUP37_HUMAN	42	37140	2
TFB1M_HUMAN	42	39860	2
RRP1_HUMAN	40	53035	1
MAP11_HUMAN	39	44100	2
RPR1A_HUMAN	38	35926	1
KC1A_HUMAN	37	39118	2
RL14_HUMAN	37	23531	1
ESTD_HUMAN	36	31956	1

TDIF1_HUMAN	36	37275	1
CDK7_HUMAN	34	39299	1
VP26A_HUMAN	34	38260	2
CMS1_HUMAN	34	32149	1
ZN761_HUMAN	34	90627	1
NALP3_HUMAN	33	120662	1
SEC13_HUMAN	32	36031	1
BIEA_HUMAN	32	33692	1
PDIP3_HUMAN	31	46289	1
H1X_HUMAN	30	22474	1
SUCA_HUMAN	29	36626	2
ASNA_HUMAN	28	39224	2
NSDHL_HUMAN	28	42159	2
FEN1_HUMAN	27	42908	1
DNJC9_HUMAN	26	30062	1
ATPG_HUMAN	25	33032	1
RS3_HUMAN	25	26842	1
BUB3_HUMAN	25	37587	1
DCD_HUMAN	25	11391	1
ELAV1_HUMAN	24	36240	1
HEM6_HUMAN	23	50918	1
3MG_HUMAN	22	33247	1
ACOD_HUMAN	21	41667	1
I20L2_HUMAN	20	39415	1
RPB3_HUMAN	19	31764	1
RL19_HUMAN	19	23565	1
IDH3G_HUMAN	18	43166	1
ZADH2_HUMAN	17	40457	1
RL10L_HUMAN	16	24959	1
CD11A_HUMAN	16	91534	1
TPM3_HUMAN	1112	32987	5
TPM2_HUMAN	803	32945	3
SRSF1_HUMAN	1050	27842	7
RS8_HUMAN	954	24475	6
GBLP_HUMAN	735	35511	10
RL10A_HUMAN	658	24987	7
ADT4_HUMAN	53	35285	1
CDK1_HUMAN	486	34131	10
RS6_HUMAN	481	28834	3
MRT4_HUMAN	416	27657	6
RAN_HUMAN	401	24579	5
1433E_HUMAN	388	29326	5
1433T_HUMAN	310	28032	4
1433Z_HUMAN	285	27899	4
1433B_HUMAN	277	28179	2
1433F_HUMAN	195	28372	2
RS2_HUMAN	373	31590	5
RSMB_HUMAN	359	24765	3
RL7L_HUMAN	349	28757	7
ARPC2_HUMAN	349	34426	5
DHB12_HUMAN	342	34416	7
RS3A_HUMAN	325	30154	5
RU2A_HUMAN	313	28512	5
PHB_HUMAN	311	29843	7
SRSF9_HUMAN	307	25640	7
CAPZB_HUMAN	292	31616	5
NEP1_HUMAN	289	26931	6
PRDX6_HUMAN	271	25133	7
MPCP_HUMAN	250	40525	5
TADBP_HUMAN	249	45053	2
IF6_HUMAN	243	27095	4
H11_HUMAN	56	21829	1
THOC4_HUMAN	237	26872	3
M2OM_HUMAN	236	34211	4
RAB5C_HUMAN	226	23696	3
RAB5A_HUMAN	141	23872	2

NSA2_HUMAN	226	30218	6
EF1B_HUMAN	220	24919	2
PNO1_HUMAN	215	28078	3
UTP11_HUMAN	213	30485	4
GSTM3_HUMAN	205	26998	5
RSSA_HUMAN	200	32947	4
PSA5_HUMAN	199	26565	3
F207A_HUMAN	197	25441	4
SRSF7_HUMAN	186	27578	2
SRSF3_HUMAN	130	19546	2
PGAM1_HUMAN	184	28900	4
PGAM2_HUMAN	42	28919	1
SPEE_HUMAN	182	34373	5
BOREA_HUMAN	182	31418	4
TXTP_HUMAN	174	34333	6
SRPRB_HUMAN	168	29912	5
PSA6_HUMAN	163	27838	3
ETFB_HUMAN	157	28054	5
RFA2_HUMAN	155	29342	4
RU2B_HUMAN	154	25470	2
SNRPA_HUMAN	86	31259	1
CAH2_HUMAN	151	29285	4
GDIR1_HUMAN	150	23250	2
PSA7_HUMAN	150	28041	3
PSA7L_HUMAN	96	28683	1
SRSF2_HUMAN	147	25461	1
PNPH_HUMAN	143	32325	5
DPM1_HUMAN	142	29673	4
GAR1_HUMAN	139	22505	3
HMGB2_HUMAN	136	24190	2
HMGB1_HUMAN	121	25049	2
HGB1A_HUMAN	92	24394	1
HMGB3_HUMAN	53	23137	1
RL10_HUMAN	127	25044	2
DHB11_HUMAN	123	33257	4
GDIR2_HUMAN	120	23031	3
GHC1_HUMAN	119	34904	3
PSA3_HUMAN	118	28643	2
SARNP_HUMAN	117	23713	3
PSA4_HUMAN	109	29750	2
IF4H_HUMAN	108	27425	1
DNJB6_HUMAN	107	36122	2
DNJB3_HUMAN	66	16719	1
PA1B3_HUMAN	105	25832	1
RPP30_HUMAN	104	29702	4
RANG_HUMAN	103	23467	1
TPIS_HUMAN	103	31057	5
ERP29_HUMAN	99	29032	2
C1QBP_HUMAN	97	31742	3
CYBP_HUMAN	95	26308	4
NUDT5_HUMAN	95	24597	4
ANXA5_HUMAN	93	35971	2
DIC_HUMAN	93	31718	2
BDH_HUMAN	92	38532	4
AN32B_HUMAN	91	28941	3
AN32A_HUMAN	63	28682	2
AN32C_HUMAN	30	26917	1
GSTO1_HUMAN	91	27833	3
MYL6B_HUMAN	87	22864	1
RAB14_HUMAN	86	24110	4
RAB6A_HUMAN	56	23692	2
RAB10_HUMAN	56	22755	1
SNP23_HUMAN	86	23682	2
PSMD8_HUMAN	82	39872	2
RAB34_HUMAN	82	29482	3
LRC59_HUMAN	81	35308	1

DCK_HUMAN	80	30841	2
RRP36_HUMAN	78	29862	2
CENPP_HUMAN	77	33429	2
SC22B_HUMAN	77	24806	1
PSA1_HUMAN	77	29822	2
RL24_HUMAN	74	17882	2
FRG1_HUMAN	74	29439	2
PA1B2_HUMAN	74	25724	2
ETFPA_HUMAN	74	35400	5
NUBP2_HUMAN	73	29206	2
ZNF22_HUMAN	69	26583	1
EXOS2_HUMAN	69	32996	2
COMT_HUMAN	67	30474	2
PSME1_HUMAN	66	28876	3
TMA16_HUMAN	66	24078	1
GRB2_HUMAN	63	25304	2
PSME3_HUMAN	63	29602	2
GNL1_HUMAN	63	69132	1
ECE2_HUMAN	62	100509	1
RT34_HUMAN	62	25692	1
PDC10_HUMAN	59	24686	2
IDI1_HUMAN	58	26645	2
RT02_HUMAN	58	33513	1
DCXR_HUMAN	56	26182	1
MEMO1_HUMAN	56	34111	2
EXOS6_HUMAN	55	28503	2
EXOS4_HUMAN	55	26652	2
RPAB1_HUMAN	54	24650	2
FBSP1_HUMAN	53	31183	1
MTCH2_HUMAN	52	33936	1
PGAM5_HUMAN	49	32213	2
NOL7_HUMAN	48	29466	1
CDK2_HUMAN	48	34079	1
CN166_HUMAN	48	28165	3
SPF30_HUMAN	48	26866	1
ML12A_HUMAN	47	19839	1
NIT2_HUMAN	45	30988	4
GSTM1_HUMAN	45	25923	2
RT07_HUMAN	45	28230	3
VWA8_HUMAN	44	215716	1
SPRE_HUMAN	43	28316	1
NDUS3_HUMAN	42	30337	2
RB27A_HUMAN	42	25137	1
6PGL_HUMAN	42	27815	3
COPE_HUMAN	42	34688	2
RS4Y1_HUMAN	40	29665	1
PPIA_HUMAN	40	18229	1
LGUL_HUMAN	39	20992	1
RM01_HUMAN	38	37113	2
SUMF2_HUMAN	38	33936	2
RSU1_HUMAN	37	31521	1
CC71L_HUMAN	36	26473	2
KAD2_HUMAN	35	26689	1
COQ5_HUMAN	35	37402	2
RL22_HUMAN	34	14835	1
DECR_HUMAN	33	36330	1
RL27A_HUMAN	32	16665	2
GRIA3_HUMAN	32	101662	1
NIPS1_HUMAN	31	33460	2
LIMS1_HUMAN	30	39108	1
RL17_HUMAN	30	21611	1
TPC_HUMAN	29	35887	2
PSME2_HUMAN	28	27555	1
NC2A_HUMAN	28	22450	1
PSMG1_HUMAN	27	33631	1
CDK4_HUMAN	27	33936	1

MTHSD_HUMAN	27	42488	1
T2FB_HUMAN	26	28420	1
RBM7_HUMAN	26	30485	2
CENPQ_HUMAN	24	30633	1
ZCCHL_HUMAN	24	33967	1
SERPH_HUMAN	23	46525	1
MP2K1_HUMAN	22	43753	1
PRS10_HUMAN	22	44430	1
WDR74_HUMAN	20	42985	1
MCAT_HUMAN	20	33264	1
H2AV_HUMAN	18	13501	1
TAM41_HUMAN	16	51946	1
MYL9_HUMAN	48	19871	1
MYL1_HUMAN	99	21189	1
H2A2B_HUMAN	189	13987	1
H90B4_HUMAN	35	58855	1
RL15_HUMAN	364	24245	1
RL30_HUMAN	363	12947	2
PROF1_HUMAN	297	15216	3
RL37A_HUMAN	280	10497	1
RL21_HUMAN	239	18610	1
RS15A_HUMAN	237	14944	2
RLA2_HUMAN	224	11658	4
H3C_HUMAN	207	15318	2
MIF_HUMAN	206	12639	2
RS16_HUMAN	202	16549	3
RL38_HUMAN	194	8270	2
PEBB_HUMAN	190	21723	1
RS9_HUMAN	183	22635	3
RS14_HUMAN	160	16434	2
PRDX1_HUMAN	143	22324	3
PRDX2_HUMAN	56	22049	1
APT_HUMAN	142	19766	2
RL12_HUMAN	139	17979	1
PPAC_HUMAN	137	18487	3
NH2L1_HUMAN	133	14393	2
HINT1_HUMAN	123	13907	1
RL23A_HUMAN	123	17684	1
RL18A_HUMAN	120	21034	1
RL9_HUMAN	120	21964	1
THIO_HUMAN	115	12015	1
SMD1_HUMAN	111	13273	3
ATPO_HUMAN	110	23377	1
RS20_HUMAN	106	13478	1
USMG5_HUMAN	102	6510	1
TEBP_HUMAN	100	18971	1
RS25_HUMAN	97	13791	2
CBX3_HUMAN	95	20969	1
RL27_HUMAN	94	15788	2
R13P3_HUMAN	92	12184	1
RL23_HUMAN	89	14970	2
CALM_HUMAN	84	16827	3
PDCD6_HUMAN	83	21912	1
RS13_HUMAN	83	17212	1
EIF3K_HUMAN	77	25329	1
CIRBP_HUMAN	75	18637	1
ARL2_HUMAN	75	21036	1
FABP5_HUMAN	74	15497	1
SAR1A_HUMAN	72	22467	1
ABHEB_HUMAN	71	22446	1
SELH_HUMAN	68	13503	1
PRDX5_HUMAN	64	22301	1
RBM8A_HUMAN	60	19934	1
NUDC_HUMAN	60	38276	1
RS19_HUMAN	59	16051	1
HBA_HUMAN	53	15305	2



ERH_HUMAN	51	12422	1
SPT4H_HUMAN	51	13470	1
UB2D2_HUMAN	48	16953	1
HMGA1_HUMAN	45	11669	1
RAB18_HUMAN	45	23248	1
KCY_HUMAN	45	22436	1
TCP4_HUMAN	45	14386	2
SRP09_HUMAN	41	10219	1
RS18_HUMAN	38	17708	1
RAP1B_HUMAN	38	21040	1
MIP18_HUMAN	38	17766	1
RAB2A_HUMAN	38	23702	1
TR112_HUMAN	36	14304	1
UBE2N_HUMAN	33	17184	1
CYTB_HUMAN	32	11190	1
RS24_HUMAN	31	15413	1
BIRC5_HUMAN	30	16720	1
CBX1_HUMAN	29	21519	1
DEST_HUMAN	29	18950	1
CX6B1_HUMAN	28	10414	1
IMP3_HUMAN	23	21951	1
SMD3_HUMAN	23	14021	1
TCAF1_HUMAN	23	103144	1
NOP16_HUMAN	22	21232	1
KLOTB_HUMAN	21	120473	1

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**Table S1. Identification procedures of HHT specific binding proteins detected by ESI-Q-TOF MS/MS.**

<b>removed proteins because only one significant peptide that was detected in each protein (691 proteins)</b>			
<b>prot_acc</b>	<b>prot_score</b>	<b>prot_mass</b>	<b>prot_sequences_sig</b>
PRS4_HUMAN	259	49325	1
TBA3E_HUMAN	728	50568	1
TBA1C_HUMAN	359	50548	1
NP1L1_HUMAN	488	45631	1
UN45A_HUMAN	84	104266	1
K1H1_HUMAN	315	48633	1
ODP2_HUMAN	181	69466	1
SYFB_HUMAN	112	66701	1
XPP1_HUMAN	51	70558	1
RCOR1_HUMAN	110	53110	1
ECH1_HUMAN	334	36136	1
SF3A1_HUMAN	41	88888	1
K2C6B_HUMAN	295	60315	1
KT33A_HUMAN	285	47166	1
TBB8_HUMAN	182	50257	1
ARAF_HUMAN	166	68341	1
AIFM1_HUMAN	135	67144	1
POC5_HUMAN	104	63711	1
SRPR_HUMAN	79	70223	1
LRC40_HUMAN	64	68720	1
DESP_HUMAN	57	334021	1
NXF1_HUMAN	54	70652	1
SQSTM_HUMAN	125	48455	1
NUP62_HUMAN	73	53394	1
NP1L4_HUMAN	68	42968	1
EGLN_HUMAN	78	71559	1
KT33B_HUMAN	260	47325	1
KRT35_HUMAN	219	51640	1
KRT85_HUMAN	139	57306	1
SF01_HUMAN	107	68514	1
PLST_HUMAN	102	71279	1
SEN3_HUMAN	76	65596	1
MAGD2_HUMAN	63	65085	1
T2FA_HUMAN	58	58262	1
SAMD1_HUMAN	30	56189	1
KCC2B_HUMAN	177	73544	1
SDPR_HUMAN	110	47202	1
EED_HUMAN	76	50907	1
CAP1_HUMAN	67	52325	1
BGAL_HUMAN	61	76483	1
STT3A_HUMAN	23	81104	1
CEP89_HUMAN	120	89934	1
CDC5L_HUMAN	62	92422	1
RAD21_HUMAN	55	71930	1
SAE2_HUMAN	36	71749	1
RAGP1_HUMAN	28	63958	1
SC24C_HUMAN	27	119789	1
HSP77_HUMAN	279	40448	1
K2C72_HUMAN	45	56470	1
K2C7_HUMAN	161	51411	1
PYRG2_HUMAN	99	66320	1
PCKGC_HUMAN	49	69948	1
MTA3_HUMAN	45	68202	1
KRT36_HUMAN	101	53354	1
K1H2_HUMAN	194	51793	1
KRT82_HUMAN	98	57985	1
PLSL_HUMAN	64	70814	1
ZWILC_HUMAN	100	67685	1
CBX2_HUMAN	58	56388	1
SNX1_HUMAN	55	59147	1
CTBL1_HUMAN	53	65588	1
ANM3_HUMAN	44	60522	1
2A5D_HUMAN	49	70289	1
SMCA2_HUMAN	42	181794	1
SNX2_HUMAN	39	58549	1
CBX4_HUMAN	36	61672	1

FIP1_HUMAN	34	66601	1
TOM70_HUMAN	32	68096	1
SWP70_HUMAN	29	69354	1
CDCA2_HUMAN	28	114146	1
P66A_HUMAN	26	68363	1
KCC2A_HUMAN	108	54624	1
COR1B_HUMAN	82	54885	1
SAAL1_HUMAN	43	54436	1
ZC3HF_HUMAN	38	48972	1
CLPB_HUMAN	32	79193	1
CENPU_HUMAN	30	47721	1
WASP_HUMAN	29	53108	1
G3BP2_HUMAN	29	54145	1
ACADS_HUMAN	67	44611	1
ABC3G_HUMAN	56	47233	1
M4K4_HUMAN	45	142754	1
DNJA3_HUMAN	35	53083	1
K1C16_HUMAN	138	51578	1
HPRT_HUMAN	108	24792	1
CSK2B_HUMAN	70	25268	1
LSM12_HUMAN	43	21972	1
GET4_HUMAN	42	36709	1
NUDT8_HUMAN	35	25753	1
MCU_HUMAN	28	40127	1
GSTP1_HUMAN	24	23569	1
SPTB1_HUMAN	60	247171	1
MYO1D_HUMAN	35	116927	1
MYO1B_HUMAN	90	132928	1
IPO8_HUMAN	87	120945	1
NEB1_HUMAN	79	123552	1
CB072_HUMAN	30	30918	1
MYO5B_HUMAN	44	215135	1
MYO5C_HUMAN	39	203994	1
AT2A3_HUMAN	114	115444	1
CROL2_HUMAN	31	33656	1
HXK3_HUMAN	47	100616	1
PSAL_HUMAN	26	54226	1
SYNE3_HUMAN	84	112774	1
PTPRC_HUMAN	68	148644	1
NOL8_HUMAN	66	132448	1
RPA2_HUMAN	57	129799	1
RNBP6_HUMAN	24	126173	1
OSBL8_HUMAN	54	101759	1
DHX37_HUMAN	54	130547	1
EXOC4_HUMAN	52	111170	1
DCTN1_HUMAN	51	142348	1
RPOM_HUMAN	50	140300	1
CE192_HUMAN	50	215180	1
PTSS1_HUMAN	49	56175	1
SRGP1_HUMAN	49	125099	1
VAV3_HUMAN	26	99082	1
RPTOR_HUMAN	48	150653	1
SON_HUMAN	46	264063	1
CE120_HUMAN	45	113198	1
FILA2_HUMAN	45	249296	1
BRD1_HUMAN	44	121554	1
TTLL7_HUMAN	43	103846	1
PCM1_HUMAN	43	230046	1
IREB2_HUMAN	42	106004	1
SPTA3_HUMAN	41	21572	1
SMRC2_HUMAN	40	133196	1
MMS19_HUMAN	40	114928	1
KIF14_HUMAN	37	187743	1
TCRG1_HUMAN	37	124051	1
SSH1_HUMAN	36	116465	1
SPICE_HUMAN	36	96548	1
RRS1_HUMAN	36	41225	1
CYFP1_HUMAN	35	146742	1
KIF11_HUMAN	35	120111	1
PHF14_HUMAN	34	101815	1

KRI1_HUMAN	34	83004	1
MYADM_HUMAN	34	36049	1
WRN_HUMAN	33	164410	1
NU160_HUMAN	33	164355	1
NXN_HUMAN	33	48761	1
DREB_HUMAN	33	71842	1
IPO11_HUMAN	32	113489	1
FANCI_HUMAN	31	150769	1
IDE_HUMAN	30	118692	1
MAP1S_HUMAN	30	113111	1
VIGLN_HUMAN	29	141995	1
YS043_HUMAN	28	23372	1
CKAP5_HUMAN	28	227062	1
BAZ1A_HUMAN	27	180246	1
DGKZ_HUMAN	27	125704	1
XPO7_HUMAN	27	125196	1
USO1_HUMAN	27	108740	1
WAPL_HUMAN	26	134516	1
CWC22_HUMAN	26	105972	1
NCKPL_HUMAN	26	129554	1
PI4KA_HUMAN	25	233622	1
STRUM_HUMAN	25	135113	1
LBR_HUMAN	25	71057	1
VIP2_HUMAN	24	141573	1
JCAD_HUMAN	24	149343	1
LUZP1_HUMAN	24	120772	1
CTNB1_HUMAN	24	86069	1
ITB1_HUMAN	23	91664	1
VTA1_HUMAN	23	34143	1
AL2SB_HUMAN	22	52748	1
RN213_HUMAN	22	598557	1
K1875_HUMAN	22	182416	1
USP9X_HUMAN	22	295515	1
CD34_HUMAN	21	41091	1
E41L2_HUMAN	21	113032	1
PRDM1_HUMAN	20	92966	1
HXK1_HUMAN	20	103561	1
DEUP1_HUMAN	20	71503	1
SMCA4_HUMAN	20	185100	1
STT3B_HUMAN	20	94241	1
S2548_HUMAN	19	33817	1
MFN2_HUMAN	19	87088	1
APC_HUMAN	19	313622	1
OIT3_HUMAN	18	62206	1
CC151_HUMAN	18	69268	1
AT12A_HUMAN	18	116292	1
CHSS1_HUMAN	17	92353	1
AMPN_HUMAN	17	109870	1
UBR5_HUMAN	17	312352	1
ATRX_HUMAN	17	284863	1
PTRF_HUMAN	16	43450	1
LRFN5_HUMAN	16	80421	1
PAK2_HUMAN	16	58291	1
TAOK2_HUMAN	16	138964	1
SMG7_HUMAN	16	127886	1
TRIPB_HUMAN	15	228131	1
TTL13_HUMAN	15	94954	1
SYTC2_HUMAN	98	93613	1
GYS2_HUMAN	95	81565	1
KS6A5_HUMAN	46	90379	1
RFTN1_HUMAN	89	63677	1
GMEB1_HUMAN	48	62894	1
EI2BE_HUMAN	68	81071	1
CIP2A_HUMAN	66	103318	1
NUP88_HUMAN	54	84629	1
SYCC_HUMAN	41	86103	1
AGAP2_HUMAN	37	125396	1
PRC2B_HUMAN	36	243958	1
IFT74_HUMAN	36	69310	1
KI2L2_HUMAN	35	38961	1

ROCK2_HUMAN	35	161939	1
P3H1_HUMAN	33	84196	1
AGO1_HUMAN	32	98293	1
PDXD1_HUMAN	32	87565	1
OS9_HUMAN	32	75971	1
AP1G2_HUMAN	31	87917	1
AAR2_HUMAN	30	43843	1
TGFA1_HUMAN	28	98236	1
APC4_HUMAN	27	92856	1
VINC_HUMAN	27	124292	1
NAA15_HUMAN	26	102462	1
RIN1_HUMAN	25	84902	1
PLOD3_HUMAN	25	85302	1
TPRN_HUMAN	25	75795	1
Z280C_HUMAN	24	84867	1
ACOC_HUMAN	24	98850	1
NEK9_HUMAN	24	108868	1
EPG5_HUMAN	23	295201	1
PANK4_HUMAN	23	86621	1
RUFY1_HUMAN	23	80851	1
VILI_HUMAN	22	93093	1
PRIC3_HUMAN	22	70789	1
SYF1_HUMAN	22	100745	1
PIBF1_HUMAN	22	90035	1
CQ085_HUMAN	21	70663	1
C2C4A_HUMAN	21	40346	1
MARK2_HUMAN	20	88255	1
CACO1_HUMAN	20	77745	1
ACAP2_HUMAN	20	88943	1
NR3L1_HUMAN	20	51536	1
F179B_HUMAN	20	190611	1
AFAD_HUMAN	19	207702	1
SCLT1_HUMAN	19	81203	1
UBP5_HUMAN	18	96638	1
PI3R4_HUMAN	18	154318	1
CP2CJ_HUMAN	18	56636	1
ACADV_HUMAN	18	70745	1
LRRK2_HUMAN	18	289568	1
HEY2_HUMAN	17	36071	1
ZSC30_HUMAN	17	57469	1
F91A1_HUMAN	17	94648	1
MIO_HUMAN	17	100232	1
PLCL1_HUMAN	17	124360	1
MYH7_HUMAN	16	223757	1
SCRN3_HUMAN	16	48969	1
COBL_HUMAN	16	136446	1
LAR4B_HUMAN	15	80902	1
IQCE_HUMAN	15	77649	1
K2C71_HUMAN	21	57769	1
PAP1M_HUMAN	96	22956	1
K1C40_HUMAN	83	50046	1
LRRK1_HUMAN	28	228385	1
BRAF_HUMAN	84	85125	1
KRT81_HUMAN	87	56832	1
PLSI_HUMAN	41	70608	1
MBD4_HUMAN	96	66808	1
PPR18_HUMAN	78	68187	1
MERL_HUMAN	65	69874	1
MAGD1_HUMAN	24	86221	1
PPM1G_HUMAN	58	59919	1
HABP2_HUMAN	26	64740	1
STAT6_HUMAN	55	94816	1
PGM2_HUMAN	53	68754	1
LRC15_HUMAN	52	65238	1
NCDN_HUMAN	50	80239	1
KIF2A_HUMAN	50	80589	1
ZDH16_HUMAN	48	44574	1
STK39_HUMAN	48	59950	1
GUF1_HUMAN	48	74737	1
UBS3B_HUMAN	48	73790	1

FAKD5_HUMAN	47	87488	1
KR87P_HUMAN	47	29555	1
PTPRG_HUMAN	46	163042	1
PRC1_HUMAN	46	72246	1
RBBP5_HUMAN	41	59800	1
CPSF3_HUMAN	41	78120	1
CHD7_HUMAN	41	337542	1
CAF1B_HUMAN	40	61910	1
PGH1_HUMAN	39	69383	1
FACD2_HUMAN	39	165792	1
BRAT1_HUMAN	39	89774	1
NADE_HUMAN	36	80545	1
LYRIC_HUMAN	36	63856	1
PALM_HUMAN	35	42221	1
ASML_HUMAN	34	69554	1
VIP1_HUMAN	34	161245	1
PRP17_HUMAN	33	66164	1
GLCNE_HUMAN	33	80193	1
ASH2L_HUMAN	33	69307	1
ECHP_HUMAN	32	80072	1
AP3B1_HUMAN	32	121815	1
NRBP_HUMAN	32	60377	1
HCLS1_HUMAN	31	54095	1
ECHB_HUMAN	31	51547	1
IRAK1_HUMAN	31	77458	1
ATG7_HUMAN	30	79050	1
ERCC2_HUMAN	29	87652	1
NPL4_HUMAN	28	69046	1
WDR76_HUMAN	28	70466	1
TAP1_HUMAN	27	87733	1
IQCB1_HUMAN	27	69342	1
TNIP1_HUMAN	26	72105	1
SCRB1_HUMAN	26	61636	1
ERLEC_HUMAN	25	55679	1
ASZ1_HUMAN	25	53938	1
DSG4_HUMAN	24	115462	1
MCE1_HUMAN	24	69425	1
UBQL2_HUMAN	24	65655	1
VGLU3_HUMAN	24	65861	1
SATB2_HUMAN	24	83017	1
WDR26_HUMAN	24	73048	1
FHOD1_HUMAN	22	127328	1
DDX4_HUMAN	22	80113	1
HAUS3_HUMAN	21	70006	1
ZSWM5_HUMAN	21	132318	1
SYTM_HUMAN	21	81841	1
CSMD3_HUMAN	20	414007	1
THOC5_HUMAN	20	79199	1
PLCH2_HUMAN	20	155940	1
DC1I2_HUMAN	20	71811	1
TIRAP_HUMAN	19	24267	1
SRRM2_HUMAN	19	300179	1
KBP_HUMAN	19	72453	1
GTPB2_HUMAN	19	66468	1
DSG1_HUMAN	19	114702	1
GALT1_HUMAN	19	65090	1
PXK_HUMAN	19	65479	1
LKHA4_HUMAN	18	69868	1
TAF6L_HUMAN	18	68342	1
PIEZ2_HUMAN	18	320652	1
WASF2_HUMAN	18	54478	1
HEAT3_HUMAN	17	75789	1
KLC1_HUMAN	17	65782	1
CE170_HUMAN	17	175586	1
ITAV_HUMAN	17	117048	1
KI26B_HUMAN	17	226481	1
TAP2_HUMAN	16	76186	1
SYLM_HUMAN	16	102823	1
NCPR_HUMAN	16	77097	1
NSMA_HUMAN	16	48128	1

KIFC1_HUMAN	16	74272	1
CENPI_HUMAN	16	87748	1
PIDD1_HUMAN	15	100619	1
IMA8_HUMAN	35	57529	1
TBL1Y_HUMAN	26	57280	1
ARP5_HUMAN	43	68825	1
RIC8B_HUMAN	28	59586	1
PTBP2_HUMAN	27	57569	1
HCK_HUMAN	41	60075	1
SCOT2_HUMAN	19	56731	1
NMT2_HUMAN	70	57286	1
ATLA2_HUMAN	26	66814	1
DPYL1_HUMAN	36	62487	1
FAKD3_HUMAN	74	76895	1
AL4A1_HUMAN	74	62137	1
UAP1L_HUMAN	60	57565	1
AAPK2_HUMAN	23	62850	1
NCOA5_HUMAN	57	65725	1
NASP_HUMAN	55	85471	1
LMAN1_HUMAN	55	57798	1
PAK1_HUMAN	41	60894	1
GPTC4_HUMAN	53	50579	1
ARMC8_HUMAN	52	76601	1
STXB3_HUMAN	50	68633	1
ARFG2_HUMAN	49	57027	1
TBCE_HUMAN	48	59936	1
TYY1_HUMAN	48	45141	1
STK38_HUMAN	48	54498	1
PCYXL_HUMAN	45	54783	1
KLHL6_HUMAN	45	71340	1
ARI1_HUMAN	44	65900	1
SETD3_HUMAN	44	67557	1
INO1_HUMAN	44	61542	1
TMX3_HUMAN	43	52181	1
KDEL2_HUMAN	38	58934	1
QRIC1_HUMAN	37	86838	1
TF3C1_HUMAN	35	241062	1
CSN1_HUMAN	35	56071	1
CNGB3_HUMAN	34	92679	1
WIPF1_HUMAN	33	51284	1
IRF5_HUMAN	33	56579	1
GEMI5_HUMAN	33	170821	1
KAPCB_HUMAN	33	40711	1
MTMRE_HUMAN	32	73013	1
GAPD1_HUMAN	32	166359	1
THUM3_HUMAN	31	57765	1
PUR1_HUMAN	31	58161	1
SRRT_HUMAN	31	101060	1
VWA9_HUMAN	31	58004	1
VP33A_HUMAN	30	67967	1
APOA_HUMAN	30	514737	1
CNOT2_HUMAN	30	59871	1
PIGT_HUMAN	29	66228	1
CO6A1_HUMAN	29	109602	1
MOS_HUMAN	29	38366	1
TFCP2_HUMAN	28	57676	1
PRI2_HUMAN	27	59225	1
CTR9_HUMAN	27	134332	1
SYPL1_HUMAN	27	28889	1
ZN207_HUMAN	27	51002	1
PDCD4_HUMAN	27	52102	1
CARM1_HUMAN	27	66382	1
CFA57_HUMAN	26	145839	1
PIGS_HUMAN	26	61731	1
TF3C5_HUMAN	26	59989	1
CDYL1_HUMAN	24	66953	1
CEP55_HUMAN	24	54487	1
PLRG1_HUMAN	24	57500	1
TITIN_HUMAN	24	3842904	1
CWC27_HUMAN	23	53985	1

HACL1_HUMAN	23	64429	1
PATZ1_HUMAN	22	75438	1
LENG9_HUMAN	22	53818	1
AKA11_HUMAN	21	212946	1
CCDC6_HUMAN	21	53429	1
CD019_HUMAN	21	34234	1
FRIL_HUMAN	20	20064	1
TF65_HUMAN	20	60695	1
K2C78_HUMAN	20	57629	1
VILL_HUMAN	20	96418	1
CDC73_HUMAN	20	60653	1
DPOD3_HUMAN	18	51653	1
CTDP1_HUMAN	18	105304	1
CO3A1_HUMAN	18	139733	1
PLK1_HUMAN	17	68953	1
NUP54_HUMAN	17	55515	1
BAIP2_HUMAN	17	61115	1
RENT2_HUMAN	17	148972	1
UBQL1_HUMAN	17	62479	1
RSPRY_HUMAN	17	65450	1
DOK1_HUMAN	17	52815	1
TLL4_HUMAN	16	134606	1
RHGBA_HUMAN	16	114879	1
MPP8_HUMAN	16	97636	1
TRI56_HUMAN	16	83147	1
BEND5_HUMAN	16	48551	1
TM131_HUMAN	15	205809	1
CDC45_HUMAN	15	66211	1
YBOX2_HUMAN	60	38552	1
BZW2_HUMAN	79	48360	1
6PGD_HUMAN	87	53619	1
TBG1_HUMAN	64	51480	1
IF2B_HUMAN	54	38706	1
DDX49_HUMAN	46	54819	1
CBX8_HUMAN	44	43483	1
NAMPT_HUMAN	40	55772	1
SCMC1_HUMAN	39	53548	1
LYAR_HUMAN	39	44044	1
KAP2_HUMAN	38	45832	1
NDUS2_HUMAN	35	52911	1
CLC11_HUMAN	35	36015	1
SPTC1_HUMAN	35	53281	1
AL1B1_HUMAN	33	57626	1
ERF1_HUMAN	33	49228	1
KAPCA_HUMAN	32	40678	1
OLA1_HUMAN	31	44943	1
PLEK_HUMAN	30	40499	1
CTBP1_HUMAN	29	47962	1
GALT8_HUMAN	29	73432	1
VASP_HUMAN	28	39976	1
AL7A1_HUMAN	25	59020	1
MEP50_HUMAN	23	37442	1
ARI5B_HUMAN	22	133433	1
CO5_HUMAN	22	189897	1
F111A_HUMAN	20	71007	1
SAMD5_HUMAN	20	19390	1
DPTOR_HUMAN	18	46777	1
PRS7_HUMAN	18	49002	1
DAZP1_HUMAN	17	43584	1
TRUA_HUMAN	16	48010	1
NUD14_HUMAN	16	24331	1
GNA12_HUMAN	68	44422	1
NACP1_HUMAN	33	23292	1
CCYL1_HUMAN	61	41250	1
DNJB4_HUMAN	40	38011	1
ENOB_HUMAN	43	47299	1
AAKG2_HUMAN	91	63198	1
DHSO_HUMAN	82	38927	1
ALDR_HUMAN	37	36230	1
PLCE_HUMAN	68	42387	1



RING2_HUMAN	66	38088	1
MK08_HUMAN	52	48835	1
MAT2B_HUMAN	54	37870	1
MINK1_HUMAN	42	150413	1
NDK7_HUMAN	44	42920	1
PP2BA_HUMAN	43	59335	1
SPSY_HUMAN	43	41698	1
F10A5_HUMAN	27	41579	1
PIHD1_HUMAN	43	32513	1
PPID_HUMAN	40	41137	1
RTCA_HUMAN	37	39825	1
RUSD3_HUMAN	37	38779	1
ADA23_HUMAN	32	94433	1
RAE1L_HUMAN	31	41569	1
IGBP1_HUMAN	31	39312	1
KC1G1_HUMAN	30	48937	1
CSK22_HUMAN	30	41358	1
DCPS_HUMAN	30	38756	1
PPP6_HUMAN	30	35806	1
SIAS_HUMAN	29	40738	1
TSR1_HUMAN	29	92151	1
CRKL_HUMAN	28	33870	1
STX17_HUMAN	28	33611	1
GIPC1_HUMAN	28	36141	1
DYN3_HUMAN	27	98084	1
RYR3_HUMAN	28	557790	1
RM04_HUMAN	27	34954	1
GPD1L_HUMAN	26	39021	1
NUBP1_HUMAN	26	35140	1
KPRB_HUMAN	16	41299	1
SRSF8_HUMAN	26	32382	1
GMD5_HUMAN	25	42265	1
THIC_HUMAN	24	41838	1
RIOK3_HUMAN	23	59511	1
SPTN5_HUMAN	22	419230	1
HDGF_HUMAN	22	26886	1
PDXK_HUMAN	21	35308	1
PP6R1_HUMAN	21	97291	1
N2DL2_HUMAN	21	27863	1
ASAH1_HUMAN	21	45087	1
BST1_HUMAN	21	36328	1
RM39_HUMAN	21	39200	1
HM13_HUMAN	20	41747	1
PEX16_HUMAN	20	38662	1
TAP26_HUMAN	20	28880	1
LASP1_HUMAN	20	30097	1
FA92B_HUMAN	20	35048	1
AT10B_HUMAN	19	167679	1
EI2BB_HUMAN	19	39193	1
RM44_HUMAN	18	37854	1
CD123_HUMAN	18	39566	1
PLIN4_HUMAN	18	135204	1
PCY1A_HUMAN	18	42047	1
B3GT6_HUMAN	18	37513	1
LYSC_HUMAN	17	16982	1
UFD1_HUMAN	17	34763	1
DHCR7_HUMAN	16	55195	1
ANR26_HUMAN	16	197400	1
RT05_HUMAN	16	48489	1
ADA2B_HUMAN	15	50333	1
1433G_HUMAN	187	28456	1
ENOPH_HUMAN	106	29086	1
SPC24_HUMAN	85	22521	1
MLEC_HUMAN	69	32385	1
CY1_HUMAN	67	35741	1
CC124_HUMAN	66	25820	1
RB11A_HUMAN	61	24492	1
KITH_HUMAN	58	26079	1
AKIP1_HUMAN	57	23328	1
RNH2A_HUMAN	55	33716	1

FA49B_HUMAN	51	37010	1
RCD1_HUMAN	50	33952	1
FAH2A_HUMAN	48	34916	1
CLN6_HUMAN	46	36010	1
GNPI2_HUMAN	18	31293	1
GSTM5_HUMAN	36	25829	1
GSTM2_HUMAN	30	25899	1
TFAM_HUMAN	44	29306	1
TSN_HUMAN	44	26281	1
BAG2_HUMAN	44	23928	1
RPIA_HUMAN	42	33533	1
GOLP3_HUMAN	41	34075	1
CASPG_HUMAN	41	20447	1
F186A_HUMAN	40	262994	1
BCL2_HUMAN	39	26363	1
DR4L1_HUMAN	37	30816	1
SGMR1_HUMAN	36	25169	1
CMBL_HUMAN	36	28372	1
SPF27_HUMAN	36	26229	1
PIMT_HUMAN	34	24792	1
CC106_HUMAN	34	32241	1
RM45_HUMAN	32	35613	1
RL8_HUMAN	32	28235	1
RAD1_HUMAN	32	32434	1
ZCH10_HUMAN	31	21125	1
KANK2_HUMAN	31	91916	1
PPIE_HUMAN	31	33695	1
HAX1_HUMAN	30	31601	1
SUGT1_HUMAN	30	41284	1
NEK6_HUMAN	30	36261	1
WDR82_HUMAN	28	35456	1
DTD1_HUMAN	28	23580	1
ZFY16_HUMAN	27	171192	1
ZMAT2_HUMAN	27	23768	1
ECHD1_HUMAN	27	33848	1
PSB1_HUMAN	27	26700	1
TIPRL_HUMAN	27	31652	1
PBDC1_HUMAN	27	26155	1
PROZ_HUMAN	26	46026	1
NAA10_HUMAN	25	26613	1
S28A3_HUMAN	24	77678	1
SSU72_HUMAN	24	23016	1
CS052_HUMAN	24	29500	1
UCK2_HUMAN	24	29452	1
ES1_HUMAN	24	28495	1
CP1B1_HUMAN	21	61263	1
41_HUMAN	23	97528	1
MRGBP_HUMAN	23	22574	1
IFT46_HUMAN	22	34436	1
EGFL7_HUMAN	22	30739	1
SNAA_HUMAN	22	33667	1
INT2_HUMAN	22	136118	1
ARC_HUMAN	21	45573	1
PCDG9_HUMAN	21	102195	1
AT2B1_HUMAN	21	139637	1
SFXN2_HUMAN	21	36493	1
FA60A_HUMAN	21	25464	1
NUMB_HUMAN	21	71444	1
NMRL1_HUMAN	21	33494	1
GOSR1_HUMAN	20	28709	1
ITFG3_HUMAN	20	60249	1
CD022_HUMAN	20	26853	1
CASP9_HUMAN	20	46993	1
SNP29_HUMAN	20	28953	1
MMAB_HUMAN	20	27713	1
AKP13_HUMAN	19	310381	1
EI2BA_HUMAN	19	33976	1
TPD54_HUMAN	19	22281	1
RGPD1_HUMAN	18	198022	1
SPD16_HUMAN	18	37874	1

H1BP3_HUMAN	18	42868	1
HCDH_HUMAN	17	34329	1
PSA2_HUMAN	17	25996	1
FCSD1_HUMAN	16	77180	1
KAD9_HUMAN	16	222698	1
DYST_HUMAN	15	865259	1
CB047_HUMAN	15	32923	1
PRDX4_HUMAN	42	30749	1
ARL1_HUMAN	102	20518	1
ARF4_HUMAN	83	20612	1
ATP5L_HUMAN	84	11421	1
RAB1A_HUMAN	69	22891	1
CGBP1_HUMAN	50	19094	1
RS17L_HUMAN	43	15597	1
LLPH_HUMAN	42	15329	1
T126A_HUMAN	42	21742	1
RAB7A_HUMAN	42	23760	1
ARPC4_HUMAN	41	19768	1
CCHL_HUMAN	41	30981	1
GOGA7_HUMAN	40	16042	1
LEG7_HUMAN	39	15123	1
LTOR1_HUMAN	37	17848	1
NDKB_HUMAN	36	17401	1
RASN_HUMAN	35	21501	1
RS30_HUMAN	35	6644	1
NHP2_HUMAN	34	17532	1
DUS23_HUMAN	32	16806	1
RM22_HUMAN	32	23797	1
TRAIIP_HUMAN	31	53945	1
RLP24_HUMAN	31	19893	1
PHF5A_HUMAN	30	13138	1
CQ10B_HUMAN	30	27509	1
CE042_HUMAN	29	365280	1
CTBP2_HUMAN	29	49427	1
PLB1_HUMAN	28	164859	1
CD248_HUMAN	28	82803	1
COPZ1_HUMAN	27	20242	1
COF1_HUMAN	27	18719	1
RS27L_HUMAN	27	9813	1
OR7C1_HUMAN	26	36122	1
PSD10_HUMAN	25	24697	1
SMIM4_HUMAN	24	8691	1
PPIB_HUMAN	23	23785	1
RL32_HUMAN	23	15964	1
TXND2_HUMAN	23	60709	1
CH10_HUMAN	22	10925	1
FKB1A_HUMAN	22	12000	1
FA65A_HUMAN	21	133423	1
PTPM1_HUMAN	21	23000	1
SNX12_HUMAN	19	19889	1
NDKA_HUMAN	19	17309	1
TXD17_HUMAN	19	14217	1
MCEE_HUMAN	19	18851	1
MYDGF_HUMAN	18	18897	1
ZEP3_HUMAN	18	261129	1
UB2V1_HUMAN	18	16598	1
RAP2A_HUMAN	18	20830	1
RGF1A_HUMAN	18	55148	1
TMM97_HUMAN	18	21005	1
SIG15_HUMAN	17	36086	1
VWF_HUMAN	17	322401	1
SYSM_HUMAN	16	58702	1
P5CR2_HUMAN	16	33958	1
ZN404_HUMAN	15	67264	1
KIF12_HUMAN	15	71813	1

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**Table S1. Identification procedures of HHT specific binding proteins detected by ESI-Q-TOF MS/MS.  
removed proteins because their scores were below or equal to 30 (17 proteins)**

<b>prot_acc</b>	<b>prot_score</b>	<b>prot_mass</b>	<b>prot_sequences_sig</b>
CK5P2_HUMAN	30	216444	3
IQGA2_HUMAN	23	181036	2
ERAP1_HUMAN	30	107736	2
RBP2_HUMAN	26	362365	2
KS6A2_HUMAN	30	83642	2
CPT1A_HUMAN	27	88995	2
THMS2_HUMAN	30	72801	2
THOP1_HUMAN	28	79702	2
ERG7_HUMAN	27	84453	2
BANP_HUMAN	28	57143	2
EIF2A_HUMAN	25	65519	2
GALT2_HUMAN	19	65433	2
WDR5_HUMAN	29	37136	2
KPRA_HUMAN	26	39654	2
THOC6_HUMAN	20	38081	2
CF223_HUMAN	30	26211	2
TMX1_HUMAN	23	32170	2

**Table S1. Identification procedures of HHT specific binding proteins detected by ESI-Q-TOF MS/MS.**

removed proteins as they were smeard (11 proteins)													
prot_acc	prot_score	prot_mass (kDa)	prot_sequences_sig	>100(kDa)	95-100(kDa)	72-95(kDa)	55-72(kDa)	43-55(kDa)	34-43(kDa)	26-34(kDa)	<26(kDa)	Summary	
				Slice1*	Slice2*	Slice3*	Slice4*	Slice5*	Slice6*	Slice7*	Slice8*		
LONM_HUMAN	206	106.936	6	1	1	1	1	1	1	1	0	6	
AAAT_HUMAN	114	57.018	2	1	1	1	1	0	0	0	0	4	
RBBP7_HUMAN	88	48.132	2	0	1	1	1	0	0	1	0	4	
HUWE1_HUMAN	80	485.523	3	1	1	0	1	0	0	0	0	3	
EIFCL_HUMAN	50	106.091	2	1	0	1	1	0	0	0	0	3	
ITPR1_HUMAN	73	317.151	3	1	1	1	0	0	0	0	0	3	
MYO9B_HUMAN	49	244.846	2	0	1	1	0	0	1	0	0	3	
ECM29_HUMAN	64	205.985	3	1	1	1	0	0	0	0	0	3	
CHD1_HUMAN	31	197.707	2	1	1	0	1	0	0	0	0	3	
RICTR_HUMAN	36	194.207	2	1	1	0	1	0	0	0	0	3	
ARP3B_HUMAN	100	48.09	2	0	0	1	1	0	1	0	0	3	

\*:1, detected in this Slice; 0, not detected in this Slice

Table S1. Identification procedures of HHT specific binding proteins detected by ESI-Q-TOF MS/MS.

removed proteins as they appeared in the wrong range region (46 proteins)													
	prot_acc	prot_score	prot_mass (kDa)	prot_sequences_sig	>100(kDa)	95-100(kDa)	72-95(kDa)	55-72(kDa)	43-55(kDa)	34-43(kDa)	26-34(kDa)	<26(kDa)	Summary
					Slice1*	Slice2*	Slice3*	Slice4*	Slice5*	Slice6*	Slice7*	Slice8*	
Slice1	IQGA3_HUMAN	62	185.268	2	0	1	0	0	0	0	0	0	1
Slice1	URB2_HUMAN	114	172.373	4	0	1	0	0	0	0	0	0	1
Slice1	PDS5B_HUMAN	34	165.818	2	0	1	0	0	0	0	0	0	1
Slice1	AKNA_HUMAN	69	155.842	2	0	1	1	0	0	0	0	0	2
Slice1	DIAP1_HUMAN	151	141.942	7	0	1	0	0	0	0	0	0	1
Slice1	DPOD1_HUMAN	102	125.035	6	0	1	1	0	0	0	0	0	2
Slice1	IPO5_HUMAN	56	125.032	5	0	1	0	0	0	0	0	0	1
Slice1	CYTSA_HUMAN	143	124.925	7	0	1	0	0	0	0	0	0	1
Slice1	LARP1_HUMAN	55	123.833	2	0	1	0	0	0	0	0	0	1
Slice1	MYO1C_HUMAN	274	122.461	9	0	0	1	0	0	0	0	0	1
Slice1	GEM14_HUMAN	35	121.728	2	0	0	1	0	0	0	0	0	1
Slice1	IPO7_HUMAN	551	120.751	9	0	0	1	0	0	0	0	0	1
Slice1	KIT_HUMAN	50	111.163	2	0	0	1	0	0	0	0	0	1
Slice2&3	EXOC6_HUMAN	98	94.404	4	0	0	0	1	0	0	0	0	1
Slice2&3	VPS51_HUMAN	65	86.901	3	0	0	0	1	0	0	0	0	1
Slice2&3	EXOC5_HUMAN	84	82.827	2	0	0	0	1	0	0	0	0	1
Slice2&3	SUN2_HUMAN	145	80.49	3	1	0	0	0	0	0	0	0	1
Slice2&3	AB11P_HUMAN	68	73.593	2	1	0	0	0	0	0	0	0	1
Slice4	SRP68_HUMAN	215	71.199	6	1	0	0	0	0	0	0	0	1
Slice4	TBRG4_HUMAN	36	71.15	2	0	0	1	0	0	0	0	0	1
Slice4	S27A2_HUMAN	75	71.066	3	1	0	0	0	0	0	0	0	1
Slice4	PAP1L_HUMAN	136	68.976	2	1	0	0	0	0	0	0	0	1
Slice4	GLMN_HUMAN	87	68.906	3	0	0	1	0	0	0	0	0	1
Slice4	GDS1_HUMAN	125	67.073	5	0	0	1	0	0	0	0	0	1
Slice4	CNOT6_HUMAN	36	63.723	2	0	0	1	0	0	0	0	0	1
Slice4	KCC2G_HUMAN	479	63.311	7	1	0	0	0	0	0	0	0	1
Slice4	RO60_HUMAN	66	61.372	4	0	0	1	0	0	0	0	0	1
Slice4	EHD4_HUMAN	80	61.365	5	0	0	1	0	0	0	1	0	2
Slice4	IMA7_HUMAN	317	60.733	6	0	0	1	0	0	0	0	0	1
Slice4	K2C75_HUMAN	216	59.809	3	1	0	0	0	0	0	0	0	1
Slice4	API5_HUMAN	147	59.31	5	0	0	1	0	0	0	0	0	1
Slice4	TCPB_HUMAN	66	57.794	2	1	0	0	0	0	0	1	0	2
Slice4	CEP57_HUMAN	97	57.396	2	0	0	1	0	0	0	0	0	1
Slice4	DNJC7_HUMAN	143	57.203	4	0	0	1	0	0	0	0	0	1
Slice4	ERO1A_HUMAN	65	55.213	2	0	0	1	0	0	0	0	0	1
Slice5	OST48_HUMAN	63	50.94	2	0	0	1	0	0	0	0	0	1
Slice5	TBB4B_HUMAN	255	50.255	6	1	0	0	0	0	0	0	0	1
Slice6	IDH3B_HUMAN	35	42.442	3	0	0	0	1	0	0	0	0	1
Slice6	TWF2_HUMAN	43	39.751	2	0	0	0	1	0	0	0	0	1
Slice6	GBB1_HUMAN	100	38.151	2	1	0	0	0	0	0	0	0	1
Slice6	MDHC_HUMAN	85	36.631	4	0	0	1	0	0	0	0	0	1
Slice6	PP2AA_HUMAN	69	36.142	3	0	0	0	1	0	0	0	0	1
Slice6	GRHPR_HUMAN	32	36.045	2	0	0	0	1	0	0	0	0	1
Slice7	RM19_HUMAN	38	33.799	2	0	0	1	0	0	0	0	0	1
Slice8	ARF1_HUMAN	90	20.741	2	0	0	0	0	0	1	0	0	1
Slice8	RS12_HUMAN	115	14.905	3	0	0	0	0	0	1	0	0	1

\*:1, detected in this Slice; 0, not detected in this Slice

Table S1. Identification procedures of HHT specific binding proteins detected by ESI-Q-TOF MS/MS.

154 candidate proteins left													
	prot_acc	prot_score	prot_mass (kDa)	prot_sequences_sig	>100(kDa)	95-100(kDa)	72-95(kDa)	55-72(kDa)	43-55(kDa)	34-43(kDa)	26-34(kDa)	<26(kDa)	Summary
					Slice1*	Slice2*	Slice3*	Slice4*	Slice5*	Slice6*	Slice7*	Slice8*	
Slice1	PCNT_HUMAN	98	380.6	4	1	0	0	0	0	0	0	0	1
Slice1	NIPBL_HUMAN	88	317.907	5	1	0	0	0	0	0	0	0	1
Slice1	FLNA_HUMAN	52	283.301	2	1	0	0	0	0	0	0	0	1
Slice1	CP250_HUMAN	134	281.88	6	1	0	1	0	0	0	0	0	2
Slice1	ACACB_HUMAN	1631	278.361	23	1	0	0	1	0	0	0	0	2
Slice1	SPTN2_HUMAN	328	272.526	5	1	0	1	0	0	0	0	0	2
Slice1	TPR_HUMAN	44	267.53	2	1	1	0	0	0	0	0	0	2
Slice1	NU205_HUMAN	138	230.171	5	1	0	0	0	0	0	0	0	1
Slice1	CHD3_HUMAN	62	227.989	2	1	0	0	0	0	0	0	0	1
Slice1	MICA3_HUMAN	60	225.297	4	1	0	0	0	0	0	0	0	1
Slice1	DOCK2_HUMAN	305	213.123	13	1	0	0	0	0	0	0	0	1
Slice1	EIF3A_HUMAN	97	166.867	2	1	0	0	0	0	0	0	0	1
Slice1	SSH2_HUMAN	32	159.77	2	1	0	0	0	0	0	0	0	1
Slice1	CND1_HUMAN	108	158.508	4	1	0	0	0	0	0	0	0	1
Slice1	SSFA2_HUMAN	149	139.554	3	1	0	0	0	0	0	0	0	1
Slice1	XPO5_HUMAN	158	138.332	3	1	0	0	0	0	0	0	0	1
Slice1	CAND1_HUMAN	218	137.999	7	1	0	0	0	0	0	0	0	1
Slice1	TBCD_HUMAN	84	134.283	4	1	0	1	0	0	0	0	0	2
Slice1	AP3D1_HUMAN	54	131.159	2	1	0	0	1	0	0	0	0	1
Slice1	PYC_HUMAN	1408	130.293	24	1	0	0	0	0	0	0	0	1
Slice1	IPO4_HUMAN	34	120.179	2	1	0	0	0	0	0	0	0	1
Slice1	RB12B_HUMAN	40	118.372	2	0	1	0	0	0	0	0	0	1
Slice1	IPO9_HUMAN	59	116.858	2	0	0	1	0	0	0	0	0	1
Slice1	HLTF_HUMAN	40	114.883	3	0	0	1	0	0	0	0	0	1
Slice1	SYIM_HUMAN	45	114.688	2	0	1	0	0	0	0	0	0	1
Slice1	NNTM_HUMAN	64	114.564	2	0	0	1	0	0	0	0	0	1
Slice1	AT1A2_HUMAN	64	113.505	2	1	0	0	0	0	0	0	0	1
Slice1	GTF2I_HUMAN	45	112.859	2	0	0	1	0	0	0	0	0	1
Slice1	ARHG2_HUMAN	81	112.386	5	1	0	0	0	0	0	0	0	1
Slice1	HYOU1_HUMAN	187	111.494	7	0	0	1	0	0	0	0	0	1
Slice1	RAI14_HUMAN	74	110.601	4	0	0	1	0	0	0	0	0	1
Slice1	XRN2_HUMAN	57	109.426	4	0	0	1	0	0	0	0	0	1
Slice1	SYAC_HUMAN	98	107.484	4	0	0	1	0	0	0	0	0	1
Slice1	XPC_HUMAN	55	106.743	4	0	0	1	0	0	0	0	0	1
Slice1	ACTN4_HUMAN	451	105.245	9	1	0	0	0	0	0	0	0	1
Slice1	ACTN2_HUMAN	151	104.358	4	1	0	0	1	0	0	0	0	2
Slice1	ACTN3_HUMAN	61	103.917	3	0	1	0	0	0	0	0	0	1
Slice1	PSA_HUMAN	134	103.895	5	0	0	1	0	0	0	0	0	1
Slice1	HXK2_HUMAN	203	103.739	4	0	0	1	0	0	0	0	0	1
Slice1	SRRM1_HUMAN	45	102.331	2	0	0	1	1	0	0	0	0	2
Slice2&3	VAV_HUMAN	48	99.677	2	1	0	0	0	0	0	0	0	1
Slice2&3	COPG2_HUMAN	58	98.7	2	1	0	0	0	0	0	0	0	1
Slice2&3	DYN2_HUMAN	49	98.345	3	1	0	0	0	0	0	0	0	1
Slice2&3	VPS16_HUMAN	39	95.66	2	0	0	1	0	0	0	0	0	1
Slice2&3	NSMA3_HUMAN	40	94.033	3	0	0	1	0	0	0	0	0	1
Slice2&3	TELO2_HUMAN	57	92.43	2	0	1	0	1	0	0	0	0	2
Slice2&3	STA5B_HUMAN	132	90.323	6	1	0	0	0	0	0	0	0	1
Slice2&3	TBCD5_HUMAN	63	89.519	3	0	0	1	0	0	0	0	0	1
Slice2&3	STAT1_HUMAN	72	87.85	4	0	0	1	0	0	1	0	0	2
Slice2&3	SC23A_HUMAN	80	87.018	3	0	1	0	0	0	0	0	0	1
Slice2&3	A16A1_HUMAN	89	86.1	3	0	0	1	1	0	0	0	0	2
Slice2&3	APC5_HUMAN	71	85.707	4	0	0	1	0	0	0	0	0	1
Slice2&3	ELMO1_HUMAN	118	84.517	5	0	0	1	0	0	0	0	0	1
Slice2&3	KS6A3_HUMAN	63	84.025	4	0	0	1	0	0	0	0	0	1
Slice2&3	SYG_HUMAN	209	83.854	5	0	0	1	0	0	0	0	0	1
Slice2&3	EXOC7_HUMAN	82	83.729	3	0	0	1	0	0	0	0	0	1
Slice2&3	ABCD1_HUMAN	45	83.398	2	0	0	1	0	0	0	0	0	1
Slice2&3	CSTF3_HUMAN	39	83.325	2	0	0	1	0	0	0	0	0	1
Slice2&3	ORC3_HUMAN	70	83.285	2	0	0	1	1	0	0	0	0	2
Slice2&3	ELMO2_HUMAN	172	83.018	7	0	1	0	1	0	0	0	0	2
Slice2&3	CAN1_HUMAN	128	82.465	7	0	0	1	0	0	0	0	0	1
Slice2&3	PLAK_HUMAN	105	82.434	6	0	0	1	0	0	0	0	0	1
Slice2&3	CEP83_HUMAN	48	82.18	4	0	0	1	0	0	0	0	0	1
Slice2&3	ACPH_HUMAN	55	82.142	3	0	0	1	0	0	0	0	0	1
Slice2&3	PPCE_HUMAN	91	81.56	5	0	0	1	1	0	0	0	0	2
Slice2&3	ABCF3_HUMAN	172	80.094	5	1	0	1	0	0	0	0	0	2
Slice2&3	PTCD3_HUMAN	107	79.184	3	0	1	0	0	0	0	0	0	1
Slice2&3	NKRF_HUMAN	54	78.308	2	0	1	1	0	0	0	0	0	2
Slice2&3	KPCB_HUMAN	100	77.96	2	0	1	0	0	0	0	0	0	1
Slice2&3	KPCA_HUMAN	136	77.841	3	0	0	1	0	0	0	0	0	1
Slice2&3	SHKB1_HUMAN	64	76.923	3	0	0	1	1	0	0	0	0	2
Slice2&3	SHCBP_HUMAN	69	76.726	4	0	0	1	1	0	0	0	0	1
Slice2&3	AKAP8_HUMAN	56	76.631	3	0	0	1	1	0	0	0	0	2
Slice2&3	ABCD3_HUMAN	114	75.941	6	1	0	1	0	0	0	0	0	2
Slice2&3	SCFD2_HUMAN	77	75.877	4	0	0	1	1	0	0	0	0	2
Slice2&3	CMC1_HUMAN	324	75.114	9	0	0	1	0	0	0	0	0	1
Slice2&3	DGLB_HUMAN	33	74.882	2	0	0	1	1	0	0	0	0	2
Slice2&3	CMC2_HUMAN	219	74.528	8	0	0	1	0	0	1	0	0	2
Slice2&3	DEF16_HUMAN	94	74.435	2	0	0	1	0	0	0	0	0	1
Slice2&3	TEC_HUMAN	102	74.389	3	0	0	0	1	0	0	0	0	1
Slice2&3	FAF1_HUMAN	40	74.364	3	0	0	0	1	0	0	0	0	1
Slice2&3	RAF1_HUMAN	89	73.803	2	0	0	1	0	0	0	0	0	1
Slice2&3	SDHA_HUMAN	125	73.672	2	1	1	0	0	0	0	0	0	2
Slice2&3	AMPB_HUMAN	178	73.234	7	0	0	1	1	0	0	0	0	2
Slice2&3	SAMH1_HUMAN	79	72.896	5	0	0	0	1	0	0	0	0	1
Slice2&3	SCFD1_HUMAN	56	72.676	2	0	0	1	0	0	0	0	0	1
Slice2&4	TR125_HUMAN	170	72.581	6	1	0	1	0	0	0	0	0	2
Slice4	TRXR1_HUMAN	31	71.832	2	0	0	0	1	0	0	0	0	1
Slice4	CLPX_HUMAN	158	69.922	6	0	0	1	1	0	0	0	0	2
Slice4	CDC23_HUMAN	76	69.588	4	0	0	0	1	0	0	0	0	1
Slice4	ACAD9_HUMAN	152	69.344	3	0	0	0	1	0	0	0	0	1
Slice4	ILVBL_HUMAN	138	68.452	7	0	0	0	1	0	0	0	0	1
Slice4	INT11_HUMAN	43	68.36	2	0	0	1	1	0	0	0	0	2
Slice4	PTN6_HUMAN	38	67.918	2	0	0	0	1	0	0	0	0	1
Slice4	SAC1_HUMAN	111	67.437	5	0	0	0	1	0	0	0	0	1
Slice4	PAPD1_HUMAN	65	66.985	3	0	0	0	1	0	0	0	0	1
Slice4	PARP2_HUMAN	136	66.734	4	0	0	0	1	0	1	0	0	2
Slice4	2AAA_HUMAN	274	66.065	9	0	0	0	1	0	0	0	0	1
Slice4	ASNS_HUMAN	72	64.899	3	0	0	0	1	0	0	0	0	1
Slice4	AAPK1_HUMAN	59	64.596	5	0	0	0	1	0	0	0	0	1
Slice4	DJC11_HUMAN	172	63.524	6	0	0	0	1	0	0	0	0	1
Slice4	TBL1X_HUMAN	71	63.255	2	0	0	0	1	0	0	0	0	1
Slice4	TRI26_HUMAN	50	62.925	2	0	0	0	1	0	0	0	0	1
Slice4	ELP3_HUMAN	131	62.789	5	0	0	0	1	0	0	0	0	1
Slice4	DPYL2_HUMAN	108	62.711	5	0	0	0	1	0	0	0	0	1
Slice4	COASY_HUMAN	136	62.632	4	0	0	0	1	0	0	0	0	1
Slice4	MUS81_HUMAN	49	61.705	2	0	0	0	1	0	0	0	0	1
Slice4	PGM1_HUMAN	102	61.696	3	0	0	0	1	0	0	0	0	1
Slice4	MPP6_HUMAN	54	61.364	3	0	0	0	1	0	0	0	0	1
Slice4	FYN_HUMAN	53	61.237	2	0	0	0	1	0	0	0	0	1

Slice4	TCHP_HUMAN	76	61.148	4	0	0	0	1	0	0	0	0	1
Slice4	GLYR1_HUMAN	43	61.088	2	0	0	1	1	0	0	0	0	2
Slice4	IMA6_HUMAN	235	61.052	4	0	0	0	1	0	0	0	0	1
Slice4	SRC_HUMAN	57	60.31	3	0	0	1	0	0	0	0	0	1
Slice4	ATLA3_HUMAN	124	60.96	4	0	0	0	1	0	0	0	0	1
Slice4	ULA1_HUMAN	42	60.665	2	0	0	0	1	0	0	0	0	1
Slice4	COR2A_HUMAN	81	60.239	3	0	0	0	1	0	0	0	0	1
Slice4	RIC8A_HUMAN	337	60.185	10	0	0	0	1	0	0	0	0	1
Slice4	CPNE1_HUMAN	89	59.649	3	0	0	0	1	0	0	0	0	1
Slice4	PRP4_HUMAN	62	59.097	4	0	0	0	1	0	0	0	0	1
Slice4	PSPC1_HUMAN	32	58.82	2	0	0	0	1	0	0	1	0	2
Slice4	IMA3_HUMAN	101	58.364	3	0	0	0	1	0	0	0	0	1
Slice4	IMA4_HUMAN	237	58.288	7	0	0	0	1	0	0	0	0	1
Slice4	OXS1_HUMAN	401	58.271	6	0	0	0	1	0	0	0	0	1
Slice4	REN3B_HUMAN	57	57.841	3	0	0	0	1	0	0	0	0	1
Slice4	COPD_HUMAN	367	57.63	8	1	1	0	0	0	0	0	0	2
Slice4	SYFA_HUMAN	407	57.585	6	1	1	0	0	0	0	0	0	2
Slice4	PNKP_HUMAN	71	57.554	2	0	0	0	1	0	0	0	0	1
Slice4	PPP5_HUMAN	61	57.412	3	0	0	0	1	0	0	0	0	1
Slice4	DC1L1_HUMAN	190	56.829	7	0	0	0	1	0	0	0	0	1
Slice4	EDC3_HUMAN	38	56.784	3	0	0	0	1	0	0	0	0	1
Slice4	CCD47_HUMAN	32	56.123	2	0	0	0	1	0	0	0	0	1
Slice4	FA98A_HUMAN	107	55.823	3	0	0	0	1	0	0	0	0	1
Slice4	STK4_HUMAN	66	55.823	3	0	0	0	1	0	0	0	0	1
Slice4	HSP7E_HUMAN	73	55.444	2	0	0	0	1	0	0	0	0	1
Slice4	WDR37_HUMAN	41	55.316	2	0	0	0	1	0	0	0	0	1
Slice5	QCR2_HUMAN	93	48.584	2	0	0	0	1	0	0	0	0	1
Slice5	SAHH_HUMAN	143	48.255	2	0	0	0	1	0	0	1	0	2
Slice6	EIF3M_HUMAN	48	42.932	2	0	0	0	0	1	0	0	0	1
Slice6	RT22_HUMAN	49	41.425	4	0	0	0	0	1	0	0	0	1
Slice6	TIM50_HUMAN	47	39.85	2	0	0	0	0	1	0	0	0	1
Slice6	AXA2L_HUMAN	60	38.806	3	0	0	1	0	0	0	0	0	1
Slice6	GLRX3_HUMAN	51	37.693	2	0	0	0	0	0	1	0	0	1
Slice6	PRKRA_HUMAN	35	34.839	2	0	0	0	0	0	1	0	0	1
Slice6	AIMP1_HUMAN	151	34.616	3	0	0	0	0	0	1	0	0	1
Slice6	GHC2_HUMAN	95	34.34	2	0	0	0	0	0	1	0	0	1
Slice7	WDR61_HUMAN	122	33.731	2	0	0	0	0	0	1	0	0	1
Slice7	GNP11_HUMAN	46	32.819	3	0	0	0	0	0	1	0	0	1
Slice7	DEC2_HUMAN	42	31.1	2	0	0	0	0	0	1	0	0	1
Slice7	CLIC4_HUMAN	76	28.982	3	0	0	0	0	0	1	1	0	2
Slice7	PGAM4_HUMAN	47	28.93	2	0	0	0	0	0	1	0	0	1
Slice7	HCD2_HUMAN	214	27.134	6	0	0	0	0	0	0	1	0	1
Slice7	CPSF5_HUMAN	133	26.268	4	0	0	0	0	0	1	0	0	1
Slice8	ARPF5L_HUMAN	123	16.931	2	0	0	0	0	0	0	1	0	1

\*:1, detected in this Slice; 0, not detected in this Slice



**Table S2. Primers used in this study**

Primers	Primer sequence (5'→3')
<b>Human <i>NKRF</i> gene transcription</b>	
<i>NKRF</i> F	GTCAAAAACGCCACCTCTCAA
<i>NKRF</i> R	CTCGCATGGAATTTGGAACCG
<b>Human <i>MYC</i> gene transcription</b>	
<i>MYC</i> F	AGCCACAGCATACATCCT
<i>MYC</i> R	CGCACAAAGAGTTCCGTAG
<b>Human <i>CTNNB1</i> gene transcription</b>	
<i>CTNNB1</i> F	AGCCGACACCAAGAAGCAGAGA
<i>CTNNB1</i> R	TGCGGGACAAAGGGCAAGATTT
<b>Human <i>MCL1</i> gene transcription</b>	
<i>MCL1</i> F	GTGCCTTTGTGGCTAAACACT
<i>MCL1</i> R	AGTCCCCTTTTGTCCCTTACGA
<b>Human <i>MYC</i> promoter</b>	
<i>MYC</i> F	GAAGTTGGCATTGGCTTT
<i>MYC</i> R	CAGGAGAATCGGACACATC
<b>Human <i>KIT</i> gene transcription</b>	
<i>KIT</i> F	CGTTCTGCTCCTACTGCTTCG
<i>KIT</i> R	CCCACGCGGACTATTAAGTCT
<b>Human <i>GAPDH</i> gene transcription</b>	
<i>GAPDH</i> F	GAAGGTGAAGGTCGGAGTC
<i>GAPDH</i> R	GAAGATGGTGATGGGATTTTC
<b><i>NKRF</i> deletion mutants</b>	
<i>NKRF</i> ΔDSRM1 F	GTCATTACAGAAAATGCAAATGATAAAACACAGCCCACTTATCCATC
<i>NKRF</i> ΔDSRM1 R	GATGGATAAGTGGGCTGTGTTTTATCATTTCATTTCTGTAATGAC
<i>NKRF</i> ΔDSRM2 F	CAGTTGGCTGGGTCTTATTTGAAGAATTCTCATAAACTACAAGATC
<i>NKRF</i> ΔDSRM2 R	GATCTTGTAGTTTATGAGAATTCTTCAATAAGACCCAGCCAACTG
<b><i>NKRF</i> point mutants</b>	
<i>NKRF</i> -L476A F	GATGACAGGCGCCCGCTGGAAATGCAAAGTGATTCTAGA
<i>NKRF</i> -L476A R	TTTCCAGCGGGCGCCTGTCATCCTTTCATAGACATACTCAACTG
<i>NKRF</i> -R477A F	GACAGGCCTCGCCTGGAATGCAAAGTGATTCTAGAGAGTGAAG
<i>NKRF</i> -R477A R	GCATTTCCAGGCGAGGCCTGTCATCCTTTCATAGACATACTC
<i>NKRF</i> -W478A F	AGGCCTCCGCGCGAAATGCAAAGTGATTCTAGAGAGTGAAGTAATTG
<i>NKRF</i> -W478A R	TTTGCATTTGCGCGGGAGGCCTGTCATCCTTTCATA
<i>NKRF</i> -K479A F	CCTCCGCTGGGCATGCAAAGTGATTCTAGAGAGTGAAGTAATTGCA
<i>NKRF</i> -K479A R	CACTTTGCATGCCACGCGGAGGCCTGTCATCCTTT
<i>NKRF</i> -C480A F	CCGCTGGAAAGCCAAAGTGATTCTAGAGAGTGAAGTAATTGCAGAAG
<i>NKRF</i> -C480A R	AATCACTTTGGCTTTCCAGCGGAGGCCTGTCATC
<i>NKRF</i> -K479AC480A F	CCTCCGCTGGGCAGCCAAAGTGATTCTAGAGAGTGAAGTAATTGCAGAAG
<i>NKRF</i> -K479AC480A R	AATCACTTTGGCTGCCAGCGGAGGCCTGTCATCCTTT
<b><i>NKRF</i> shRNA</b>	
<i>NKRF</i> shRNA F	GATCCGGATGTAGAGAGGGTGAATAATTCAAGAGATTATTCACCCCTCTACATCCTTTTTTG
<i>NKRF</i> shRNA R	AATTCAAAAAAGGATGTAGAGAGGGTGAATAATCTCTTGAATTATTCACCCCTCTACAT CCG
shSCR F	GATCCAGCGTGTAGCTAGCAGAGGTTCAAGAGACCTCTGCTAGCTACACGCTTTTTTTACGCGTG
shSCR R	AATTCACGCGTAAAAAAGCGTGTAGCTAGCAGAGGTTCTTGAACCTCTGCTAGCTACACGCTG