Legends to the Supplementary Figures.

Supplementary Figure 1. Phenotypic characterization of human CD4 Th cells. Flow cytometric analyses of the indicated primary Th cells (ND8) or Th lines (NIH001, Jurkat) stained with a panel of indicated antibodies or their isotype IgG control antibodies are shown as histogram plots. The data tabulated below indicates the Th subtype, i.e., effector, effector memory, naïve etc. based on the combination of cell receptor expression.

Supplementary Figure 2. Experimental depletion of WAS expression in normal (WT) Th cells. (**A**) For CRISPR/Cas9-mediated WAS KO: location of gRNA guides on the *WAS* gene showing primer pairs with the expected amplicon length. (**B**) representative gel images showing clones with PCR amplicon patterns that is consistent with no KO, partial KO, and complete KO of WAS. (**C**) Western blot sequentially reprobed with anti-WASp and α-tubulin loading control antibodies, to demonstrate complete WAS KO clones lacking WASp expression. (**D**) DNA sequencing of complete WAS KO clone show the expected gene region deletion. (**E**) RNA-interference-mediated depletion of WASp expression by shRNA vector. Shown is the western blot image of WASp expression in the indicated primary Th cells.

Supplementary Figure 3. RNaseH1 expression into WT and WKO Th1 cells. Flow cytometry (dot plot) of NIH001-WT and -WKO Th1 lines transfected with RNaseH1-eGFP construct or its empty vector control is shown as pre-sort (transfection efficiency) and post sort (purity) in 3 independent experiments. “X” denotes post-sort sample not tested for purity. The location of the gated population is shown, which was sorted for down-stream assays.

Supplementary Figure 4. R loop modulation in DRB-treated Th1 cells. *Left*, confocal images of WT Th1 cells dual-labelled with S9.6 antibody and DAPI. The image shown is representative of n=100 cells in DRB 100uM for 2 h treatment condition. *Right*, statistics of

S9.6+ foci changes under the indicated DRB dose/duration conditions. The displayed data is from n=100-150 cells analyzed for each condition. p-value: ns= nonsignificant by Mann-Whitney nonparametric test.

Supplementary Figure 5. R-loop and DNA damage load in WASp-deficient Th2-cells. (A) Box-and-whisker plots comparing the magnitude of R-loop (S9.6+ foci) and DSB load (comet assay) in Th1 and Th2 cells, WASp-sufficient (WT) and WASp-deficient (WKO/WKD). The data is representative of analyzing 20-30 z-stack images of at least 100 cells each from 2-3 independent experiments. (**B**) shown are the indicated immunofluorescence images overlaid on the corresponding Nomarski (DIC) images for Th1 and Th2 cells. Right, plot showing the range of individual (single) S9.6+ foci size in Th1 and Th2 cells. ****p<0.0001, Mann-Whitney.

Supplementary Figure 6. Reconstituting nuclear but not cytosolic compartment of WASp-deficient Th1-cells is necessary to normalize R-loop frequency. Change in R-loop frequency in WAS Th1 line stably-transfected with NLS-deleted (ΔNLS) or NES-deleted (ΔNES) WASp mutants. Note, reconstituting only the nuclear compartment with WASp is sufficient to normalize the R-loop frequency (left panel), but reconstituting only the cytosolic compartment does not change the R-loop frequency (right panel). Also shown is the ChIP enrichment profile of γH2A.X. Note, the DNA damage as reported by γH2A.X enrichment is reduced by reconstituting only the nuclear compartment of WASp-deficient Th1 cells. Data is from n=3, mean+SEM.

Supplementary Figure 7. The magnitude of R-loop accumulation and DNA-damage at non-Th1 genes in WASp-deficient Th1 cells. (**A**) R loop frequency at the 3'-ends of the indicated Th1 and non-Th1 genes in WAS Th1 line (NIH002) untransfected (control) or transfected with wt-WASp or the indicated pathogenic mutant. (**B**) DNA damage frequency at the same cis-region in the same set of genes. Data is from n=3, mean+SEM.

Supplementary file 1

Antibodies and Reagents

Antibody	**Product number**	**Company name**	**Used for**
AF488 anti-mouse IgG	A21202	Invitrogen	IF, FACS
AF488 anti-rabbit IgG	A21206	Invitrogen	FACS
AF488 anti-mouse IgG	A16119	ThermoFisher	IF
AF568 anti-rabbit IgG	A-11004	ThermoFisher	IF
AF594 anti- rabbit IgG	A11012	Invitrogen	FACS
AF594 anti-mouse IgG	A21203	Invitrogen	FACS
AF647 anti-mouse IgG	A32728	ThermoFisher	IF
Anti-CD28	302902	BioLegend	Cell culture
Anti-CD3	300402	BioLegend	Cell culture
Anti-IL-4	500815	BioLegend	Cell culture
anti-mouse IgG-HRP	sc-2055	Santa Cruz	WB
anti-rabbit IgG-HRP	sc-2054	Santa Cruz	WB
DNAPKcs	Ab18192	Abcam	ChIP
DNAPKcs	sc-5282	Santa Cruz	WB
DNA-RNA Hybrid (S9.6)	ENH001	Kerafast	DRIP, FACS, IF
Flag M2	F1804	Sigma	IP,WB, ChIP
H2A	ab13923	Abcam	FACS
phospho-Histone H2A.X (Ser139)	05-636	Millipore	FACS, ChIP
p-Histone H2A.X (Ser 139)	sc-101696	Santa Cruz	WB, IF
H2A.Z	ab4174	Abcam	FACS
Histone H3	ab1791	Abcam	WB, ChIP, FACS
IgG	sc-66931	Santa Cruz	Gel super-shift
LAMP1	H4A3	DSHB	WB
Normal Mouse IgG	12-371	Upstate	ChIP, FACS
Rabbit Control IgG	Ab46540	Abcam	IP, ChIP, FACS
RNA pol II	05-623	Millipore	ChIP
RNA pol II (Ser2)	Ab5095	Abcam	ChIP
RNA pol II (Ser5)	Ab5131	Abcam	ChIP
Reagent	**Product number**	**Company**	**Used for**
α-Amanitin	A2263	Sigma	Transcription inhibitor
Alexa Fluor™ 568 Phalloidin	A12380	ThermoFisher	IF
Amaxa Cell line nucleofactor kitV	NC9041615	Fisher Scientific	Cell transfection
Agarose, low gelling temperature	A0701	Sigma-Aldrich	Single-Cell Gel Electrophoresis Assay
ChIP-IT Protein G Magnetic Beads	101945	Active Motif	ChIP, IP
CometSlide	4250-200-03	Trevigen	Single-Cell Gel Electrophoresis Assay
Control CRISPR/Cas9 Plasmid	Sc-418922	Santa Cruz	Control for KOs
Cytochalasin D	C8273	Sigma	Actin depolymerization
CytoFix/CytoPerm solutions	554714	BD Pharmingen	For intracellular FACS
DAPI	D3571	Invitrogen	IF
DRB	D1916	Sigma	Transcription inhibitor
Enzymatic shearing cocktail	101197	Active Motif	ChIP
Lysis Solution	4250-050-01	Trevigen	Single-Cell Gel Electrophoresis Assay
High Capacity cDNA Reverse Transcription kit	4368813	Applied Biosystems	cDNA synthesis
Latrunculin B	L5288	Sigma	Actin depolymerization
Myc-DDK-tagged ORF clone of Homo sapiens WAS	RC203457	Origene	Used as mammalian protein expression vector
NE-PER Nuclear & Cytoplasmic Extraction Reagents	78835	Pierce	To extract nuclear and ctyoplasmic proteins

Perfecta qPCR SuperMix, LowROX^{TM}	95052-500	Quanta Biosciences	RT-PCR
Plasmid Transfection Medium	sc-108062	Santa Cruz	For transfection
Proteinsae K stop solution	Part#101942	Active Motif	ChIP
QuickChange II Site-Directed Mutagenesis (SDM) kit	200519	Stratagene	Site-Directed Mutation

WB: Western Blot
IF: Immunoflourescence
ChIP: Chromatin Immunoprecipitation
IP: Immunoprecipitation
FACS: Fluorescence-activated cell sorting
RT-PCR: Real Time Polymerase Chain Reaction
DRIP: DNA-RNA Immunoprecipitation

Supplementary file 2

RT-qPCRPrimers and Probes for mature mRNA and nascent pre-mRNA estimation

Gene (AssayID)	**Exon Boundary**	**Chromosome location**
IFNG (Hs99999041_m1)	Ex1-2	Chr.12: 68154770 - 68159741
IFNG (Hs00989290_g1)	Ex2-3	Chr.12: 68154770 - 68159741
IFNG (Hs00174143_m1)	Ex3-4	Chr.12: 68154770 - 68159741
TBX21 (Hs00203436_m1)	Ex1-2	Chr.17: 47733240 - 47746122
TBX21 (Hs00894391_g1)	Ex2-3	Chr.17: 47733240 - 47746122
TBX21 (Hs00894392_m1)	Ex3-4	Chr.17: 47733240 - 47746122
TBX21 (Hs00894393_gH)	Ex4-5	Chr.17: 47733240 - 47746122
TBX21 (Hs00894394_g1)	Ex5-6	Chr.17: 47733240 - 47746122
TUBA1A (Hs04187782_g1)	Ex1-2	Chr.12: 49127782 - 49131521

TUBA1A	Ex2-3	5’-GGCTGTGTTTGTAGACTTGGA-3’
		5’-CTCATCAGGCAAGGAAGAT-3’
		5’-6FAM-TGATGAAGTTCGCACTGGCACCTA-3’
TUBA1A	Ex3-4	5’-CAAGGAAGATGCTGCCAATAAC-3’
		5’-GTCTTCAGGGCTTCTTGGTT-3’
		5’-6FAM-GTCTTCAGGGCTTCTTGGTT-3’
IFNG	5’-UTR	5’-GTTTCCGAGAGAATTAAGCCAAAG-3’
		5’-CATCTGAAGATCAGCTATTAGAAGAGA-3’
		5’-6FAM-TCAAGCTGATCAGGTCCAAAGGACT-3’
IFNG	Ex1-Int1	5’-TTTCAGCTCTGCATCGTTT-3’
		5’-AGCAAGTCGATATTCAGTCATT-3’
		5’-6FAM-ACATATGGGTCCTGGCAGTAACAGC-3’
IFNG	Ex2-Int2	5’-GGTCATTCAGATGTAGCGGATAA-3’
		5’-CCATCAGAAAGCAAGCAACAG-3’
		5’-6FAM-AGAGGTAAGCTGAATATTCCCATTTGGCT-3’
IFNG	Int2-Ex3	5’-TCCTCTGTTTGTGCTCTTTCC-3’
		5’-CTTGATGGTCTCCACACTCTTT-3’
		5’-6FAM-ATGCAGAGCCAAATTGTCTCCTTT-3’

IFNG	Ex3-Int3	5’-AAAGAGTGTGGAGACCATCAAG-3’
		5’-CAAGACCCTCGGCAATGAA-3’
		5’-6FAM-AGCTGACTAATTATTCGGTGAGGCT-3’
IFNG	Int3-Ex4	5’-ACTGACCATCATGACATTAGCA-3’
		5’-CAGTTCAGCCATCACTTGGA-3’
		5’-6FAM-ACTGACTTGAATGTCCAACGCAAAGC-3’
IFNG	Ex4-3’-UTR	5’-TCCAAGTGATGGCTGAACTG-3’
		5’-CAAATATTGCAGGCAGGACAAC-3’
		5’-6FAM-TCGAGGTCGAAGAGCATCCCAGTA-3’
IFNG	3’-UTR-polyA	5’-GTCAGGTGACCCTGATGAAA-3’
		5’-TTGGGTACAGTCACAGTTGTC-3’
		5’-6FAM-TCAGGAGATTTCATGCCTGGTGCT-3’
TBX21	Ex1-Int1	5’-TCCAAGTTTAATCAGCACCAGA-3’
		5’-GACAATGCTTCTGACTCCGT-3’
		5’-6FAM-ATCATCACCAAGCAGGGACGGT-3’
TBX21	Int1-Ex2	5’-TGTCAAGCTGGAGCTGATG-3’
		5’-ACTACAGGATGTTTGTGGACG-3’
		5’-6FAM-TCTCTCTTCTCTCCAGGCGGATGT-3’
TBX21	Ex2-Int2	5’-ATGTTTGTGGACGTGGTCTT-3’
		5’-CTCTGTTTCGCTGGGACTG-3’
		5’-6FAM-GCAAGTGGGTGCAGTGTGGAAAG-3’
TBX21	Int2-Ex3	5’-GCATGTCAAAGAGGTGAACTG-3’
		5’-CATTTGGGAAACTAAAGCTCACA-3’
		5’-6FAM-ACAGGAAACCGCCTGTACGTCC-3’
TBX21	Ex3-Int3	5’-GCGCCAGGAAGTTTCATTTG-3’
		5’-AAAAGGTAGCCTCGCCCT-3’
		5’-6FAM-GCGTCCAACAATGTGACCCAGGTA-3’
TBX21	Int3-Ex4	5’-AACCGTCTTGCTCTGTCTAC-3’

		5’-CATATCGTTGAGGTGAACGACG-3’
		5’-6FAM-ATGATTGTGCTCCAGTCCCTCCAT-3’
TBX21	Ex4-Int4	5’-GCTTCCAACACGCATATCTTTAC-3’
		5’-CTTGGGAGGGATTTGGAAA-3’
		5’-6FAM-ATTGCCGTGACTGCCTACCAGAAT-3’
TBX21	Int4-Ex5	5’-GTCTTCCTTGGGAGGGATTTG-3’
		5’-CAAAGGATTCCGGGAGAACTT-3’
		5’-6FAM-CCCAGACTCAGGACTCAGGTGACT-3’
TBX21	Ex5-Int5	5’-AAGGATTCCGGGAGAACTTTG-3’
		5’-CTGAGACACATCCTCTCCCT-3’
		5’-6FAM-GGGTTCAACTCAGCTTTGGTCCCT-3’
TBX21	Int5-Ex6	5’-TCTGCTTGTGACCCGTTT-3’
		5’-CTACCCAACCAGTATCCTGTTC-3’
		5’-6FAM-GCCTGGACCCAACTGTCAATTCCT-3’
TUBA1A	Ex1-Int1	5’-CCTCCTAATCCCTAGCCACTA -3’
		5’-CGTTTGGAGGGCGGAA -3’
		5’-6FAM-TCCCGGCTGCTTTCAGGGAA -3’
TUBA1A	Int1-Ex2	5’-GGCGACAGACCTTATCTCTAAA -3’
		5’-ATCTCCATCCACGTTGGC -3’
		5’-6FAM-TTTCCTTCCCGCAGCGTGAGT -3’
TUBA1A	Ex2-Int2	5’-GGCTGTGTTTGTAGACTTGGAA -3’
		5’-TCACTCACTCACTCCCTCC -3’
		5’-6FAM-CCCACAGTCATTGGTGAGTTGACCT -3’
TUBA1A	Int2-Ex3	5’-CTTCTCTTGTCACTCACTC -3’
		5’-CAAGGAAGATGCTGCCAATAA -3’
		5’-6FAM-CGTCCTTCTCTCCCTCCTCCAGAT -3’
TUBA1A	Ex3-Int3	5’-CTACACCATTGGCAAGGAGAT -3’
		5’-TAGTTCCAGTGCAAGTTGGG -3’
		5’-6FAM-TCGCAAGCTGGTAAGCACCACATA -3’

TUBA1A	Int3-Ex4	5’-CCTTGTGCTTACATCAGTGAGA -3’
		5’-GTCTTCAGGGCTTCTTGGTT -3’
		5’-6FAM-TACAGGCTGACCAGTGCACC -3’

e. *RT-qPCRPrimers and Probes for intron retention*

IFNG	Ex2-Int2	5’-AGATGTAGCGGATAATGGAACTC -3’
		5’-GTTTGTGCTCTTTCCTTCCAAG -3’
		5’-6FAM-TCCTGTTGCTTGCTTTCTGATGGA -3’
TBX21	Ex4-Int3-Ex5	5’-CGTGACTGCCTACCAGAATG -3’
		5’-CTATTTCCCTTCTCTCTAGATTACTCAG -3’
		5’-6FAM-CGTGACTGCCTACCAGAATG -3’
IL13 (Hs01124271_g1)	Ex2-Int2-Ex3-2	Chr.5: 132658173 - 132661109

f. *RT-PCRPrimers for intron retention and sequencing*

IFNG	Ex2-Int2-Ex3 [Forward]	5’-TGCAGGTCATTCAGATGTAGC -3’
	Ex2-Int2-Ex3 [Reverse]	5’-TGACCAGAGCATCCAAAAGA -3’
TBX21	Ex4-Int4-Ex5 [Forward]	5’-GCTGCATATCGTTGAGGTGA -3’
	Ex4-Int4-Ex5 [Reverse]	5’-CAAAGGATTCCGGGAGAACT -3’
TUBA1A	Ex2-Int2-Ex3 [Forward]	5’-CCGGGCTGTGTTTGTAGACT -3’
	Ex2-Int2-Ex3 [Reverse]	5’-ACACCATTGGCAAGGAGATC -3’
IL13	Ex2-Int2-Ex3 [Forward]	5’-CAGCATGGTATGGAGCATCA -3’
	Ex2-Int2-Ex3 [Reverse]	5’-GAAGACCCAGAGGATGCTGA -3’

g. *Site-directed mutagenesis primer sets for generating WASp- mutants*

Primer	**Sequence**
T45M Forward	5'- TGCTTGGACGAAAATGCTTGATGCTGGCCACTG-3'
T45M Reverse	5'- CAGTGGCCAGCATCAAGCATTTTCGTCCAAGCA-3'
V75M Forward	5’-GGGGCTGTGTGCTTCATGAAGGATAACCCCC-3’

V75M Reverse	5’-GGGGGTTATCCTTCATGAAGCACACAGCCCC-3’
A236G Forward	5'- AGAAGAAGATCAGCAAAGGTGATATTGGTGCACCC-3'
A236G Reverse	5'- GGGTGCACCAATATCACCTTTGCTGATCTTCTTCT-3'
R477K Forward	5’-CACGTGATGCAGAAGAAAAGCAGAGCCATCCAC-3’
R477K Reverse	5’-GTGGATGGCTCTGCTTTTCTTCTGCATCACGTG-3’

h. *RT-qPCRPrimers and Probes for mRNA estimation*

Gene (AssayID)	**Exon Boundary**	**Chromosome location**
IFNG (Hs00989290_g1)	Ex2-3	Chr.12: 68548550 - 68553521
TBX21 (Hs00894392_m1)	Ex3-4	Chr.17: 45810610 - 45823485
IL12RB2 (Hs02558264_s1)	Ex16-16	Chr.1: 67773047 - 67862583
GAPDH (Hs00266705_g1)	Ex2-3	Chr.12: 6643657 - 6647536

i. *ChIP-qPCRPrimers and Probesbased on NCBI36/hg18(Mar. 2006)*

Genes Names	**Primer/Probes Sequence**
-1kbTSS IFNG (1)	5’-GTTCAAGCCATTCTCCTGCCT-3’
	5’-AAATTAGCCAGGCATGGTGGT-3’
	5’-/56-FAM/CCTCCCTAG/ZEN/TAGCTGAGATTACAGGCA/3IABKFQ/-3’
5’UTR-EXON1 IFNG (2)	5’-CGTAATCCTCAGGAGACTTCAA-3’
	5’-GATCTTTCTCTTCTAATAGCTGATCTTC-3’
	5’-/56-FAM/AAATACCAG/ZEN/CAGCCAGAGGAGGTG/3IABkFQ/-3’
EXON1-INTRON1 IFNG (3)	5’-TTCAGCTCTGCATCGTTT-3’
	5’-GCAAGTCGATATTCAGTCATTT-3’
	5’-/56-FAM/ACATATGGG/ZEN/TCCTGGCAGTAACAGC/3IABkFQ/-3’
Intron1a-intron1a IFNG (4)	5’-ACCTTCTGCTCAGTTTGTATAGAG-3’
	5’-CTGAATGAGTTCCCACCACA-3’
	5’-/56-FAM/AGATGGGCA/ZEN/TAATATGGGTATGAAGCA/3IABkFQ/-3’
Intron1b-intron1b IFNG (5)	5’-GATTTCAACATTCTGCTTCTCTATC-3’
	5’-AAACATTCCTTAGCCAGAATCA-3’
	5’-/56-FAM/CGGAACTTC/ZEN/GTTGCTCACTGGGAT/3IABkFQ/-3’
Intron1c-intron1c IFNG (6)	5’-CACACACACACACACAC-3’
	5’-CATCTACTGTGCCTTCCTGTAG-3’
	5’-/56-FAM/ACACTCGCA/ZEN/CATGTTTGGAACTATCT/3IABkFQ/-3’

Intron1c-exon2a IFNG (7)	5’-GGTCATTCAGATGTAGCGGATAA-3’
	5’-CAGAAAGCAAGCAACAGGAAA-3’
	5’-/56-FAM/AGAGGTAAG/ZEN/CTGAATATTCCCATTTGGCT/3IABKFQ/-3’
Intron2a-exon3 IFNG (8)	5’-TCCTCTGTTTGTGCTCTTTCC-3’
	5’-TTTGGATGCTCTGGTCATCTTT-3’
	5’-/56-FAM/ATGCAGAGC/ZEN/CAAATTGTCTCCTTT/3IABkFQ/-3’
Exon4-3’UTR IFNG (9)	5’-GTGTAAGTTCACAACTACTTATGCTG-3’
	5’-TTTCCACAGCTAAGAAGACTCC-3’
	5’-/56-FAM/AGTGAGACC/ZEN/TGGAGTGAAAGAACTACCT/3IABkFQ/-3’
+1.5KB3’UTR IFNG (10)	5’-TCCCTCTCTGAGGTTGAT-3’
	5’-GGATCTTCTCCCTGTCTCATTC-3’
	5’-/56-FAM/TGGCCAGAC/ZEN/TGTGAGACATGAAAGA/3IABkFQ/-3’
+6kb3’UTR IFNG (11)	5’-AGGACAACTAGAAGGGACTCA-3’
	5’-AGAAACAAAGGTCTGCTCTCC-3’
	5’-/56-FAM/AGCCCTCTC/ZEN/ACAGGAGTCCTGGTAA/3IABkFQ/-3’
+3kb3’UTR IFNG (12)	5’-CTTATCATCATGGAGGGCAGAA-3’
	5’-CCTAAAGTCTCCAGAAGGAACAA-3’
	5’-/56-FAM/AAATCAAGG/ZEN/CATCGGCAGGGC/3IABkFQ/-3’
3’TBX21	5’- CTCCAGTCCCTCCATAAGTACCA-3’
	5’- CTCTCCGTCGTTCACCTCAAC-3’
	5’-6FAM- CCCCGGCTGCATAT-3’
3’IL12RB2	5’-GTGGTAGCTCATGCCTGTAATC-3’
	5’-CCATGTTAGCCAGAATGGTCTC-3’
	5’-/56-FAM/AGGCGGATC/Zen/ATGAGGTCAGGAGAT/3IABKFQ/-3’
3’RUNX3	5’-GATGTGTGGAAGGAGTCCAG-3’
	5’-CTGGGCAACAGCAGGAG-3’
	5’-/56-FAM/CCGGTTTCT/Zen/AGGGCTATGCATGGA/3IABkFQ/-3’
3’TLR1	5’-GGATCCACTTGTTTCTTTGCTATAA-3’
	5’-ACTAGAACACACATCACTGAAGAA-3’

	5’-/56-FAM/TCATGAAGT/Zen/CAAGGGAAGCACCTGT/3IABkFQ/-3’
3’IL10	5’-CAACAGAAGCTTCCATTCCAAG-3’
	5’-CCAAGCCCAGAGACAAGATAA-3’
	5’-/56-FAM/ACCACGCTT/ZEN/TCTAGCTGTTGAGCT/3IABkFQ/-3’
3’FOXP3	5’-GTCACAATCCTGTCCCTCAC-3’
	5’-GCTGTGCTTGTGTGTGATTG-3’
	5’-/56-FAM/AGCCTGCCT/ZEN/CAGTACACTCAAACA/3IABkFQ/-3’
3’IL17A	5’-GTGCTGTCTTGCCCTACTT-3’
	5’-TGGAGTGAAGAGGAAGGTCT-3’
	5’-/56-FAM/ATATTCTCA/ZEN/GGCCACTCTGCAGGC/3IABKFQ/-3’
3’IL5	5’TTTACTGCAGTGAGAATGAGG-3’
	5’-CTTTCTGGCAAAGTGTCAGTAT-3’
	5’-/56-FAM/ATTAAGGCC/ZEN/TGACTCTTTCTTGGC/3IANkFQ/-3’
3’SNRPN	5’-GAGCAATTAAACTGTGAGGTACTG -3’
	5’-AATCAACTGCTTAATAGGCATCAC-3’
	5’-/56-FAM/TGATGAGAT/Zen/CTTAAGTTACTGTGGATGAGG/3IABkFQ/-3’
3’ ZNF544	5’-GGAGGAGTTGCCATTACACTAC-3’
	5’-CTTGGCAAGATCCCATCCAT-3’
	5’-/56-FAM/AAGATTGGT/Zen/GGACGGGAATGCTGT/3IABkFQ/-3’

Human Primary Th1 cells: nuclear fraction (IP with anti-WASp Ab)

Accession	Description	ΣCoverage	Σ# Proteins	Σ# Unique Peptide	Σ# Peptides	Σ# PSMs	# AAs	MW [kDa]
P42768	Wiskott-Aldrich syndrome protein OS=Homo sapiens GN=WAS PE=1 SV=4 - [**WASP_HUMAN**]	10.76	1	3	3	4	502	52.9

Sequence	A3	B3	C3	D3	E3	F3	G3	Modifications	Spectrum File	Charge	m/z [Da]	MH+ [Da]	ΔM [ppm]	RT [min]	PSM Ambiguity	rotein Description	# Proteins	XCorr	# Missed Cleavage	# Protein Groups	tein Group Accessi	earch Engine Ran	q-Value	PEP	Peptides Matched	MS Order	Total Ions
AGISEAQLTDAETSK					High				NP55-75.raw	2	760.87653	1520.74578	1.21	39.41	Unambiguous	Wiskott-Aldrich sy	1	5.41	0	1	P42768	1			565	MS2	28
HVSHVGWDPQNGFDVNNLDPDLR					High				NP55-75.raw	4	658.56573	2631.24111	2.85	59.29	Unambiguous	Wiskott-Aldrich sy	1	4.58	0	1	P42768	1			1967	MS2	132
LIYDFIEDQGGLEAVR					High				NP55-75.raw	3	613.31634	1837.93446	0.72	65.15	Unambiguous	Wiskott-Aldrich sy	1	5.47	0	1	P42768	1			614	MS2	60
LIYDFIEDQGGLEAVR					High				NP55-75.raw	2	919.47296	1837.93865	3.00	65.72	Unambiguous	Wiskott-Aldrich sy	1	6.44	0	1	P42768	1			542	MS2	30

P11387	DNA topoisomerase 1 OS=Homo sapiens GN=TOP1 PE=1 SV=2 - [**TOP1_HUMAN**]	41.70	13	32	32	105	765	90.7

Sequence	A3	B3	C3	D3	E3	F3	G3	Modifications	Spectrum File	Charge	m/z [Da]	MH+ [Da]	ΔM [ppm]	RT [min]	PSM Ambiguity	rotein Description	# Proteins	XCorr	# Missed Cleavage	# Protein Groups	tein Group Accessi	earch Engine Ran	q-Value	PEP	Peptides Matched	MS Order	Total Ions
AEEVATFFAK		High							NPIP-40-80.raw	2	556.78571	1112.56413	1.64	48.96	Unambiguous	DNA topoisomeras	1	3.52	0	1	P11387	1	0	0.000228087	402	MS2	18
AEEVATFFAK			High						NPIP-150-250.raw	2	556.78660	1112.56592	3.24	49.17	Unambiguous	DNA topoisomeras	1	3.22	0	1	P11387	1	0.000188	0.001373608	388	MS2	18
AEEVATFFAK				Medium					NP55.raw	2	556.78485	1112.56243	0.10	51.57	Unambiguous	DNA topoisomeras	1	3.15	0	1	P11387	1			374	MS2	18
AEEVATFFAK					Medium				NP55-75.raw	2	556.78601	1112.56474	2.19	51.57	Unambiguous	DNA topoisomeras	1	3.14	0	1	P11387	1			332	MS2	18
AEEVATFFAK						Medium			NP100-150.raw	2	556.78589	1112.56450	1.97	51.70	Unambiguous	DNA topoisomeras	1	3.01	0	1	P11387	1			344	MS2	18
AEEVATFFAK						High			NP100-150.raw	2	556.78583	1112.56438	1.86	52.28	Unambiguous	DNA topoisomeras	1	3.33	0	1	P11387	1			399	MS2	18
AGNEKEEGETADTVGccSLR		High						C16(Carbamidom	NPIP-40-80.raw	3	728.31763	2182.93833	1.96	29.98	Unambiguous	DNA topoisomeras	1	5.19	1	1	P11387	1	0	9.39974E-07	1897	MS2	76
AGNEKEEGETADTVGccSLR			High					C16(Carbamidom	NPIP-150-250.raw	3	728.31915	2182.94291	4.06	30.05	Unambiguous	DNA topoisomeras	1	5.78	1	1	P11387	1	0	2.66608E-06	1886	MS2	76
AGNEKEEGETADTVGccSLR					High			C16(Carbamidom	NP55-75.raw	3	728.31738	2182.93760	1.62	32.20	Unambiguous	DNA topoisomeras	1	6.09	1	1	P11387	1			1913	MS2	76
AGNEKEEGETADTVGccSLR						High		C16(Carbamidom	NP100-150.raw	3	728.31787	2182.93906	2.30	32.35	Unambiguous	DNA topoisomeras	1	6.66	1	1	P11387	1			1893	MS2	76
AVAILcNHQR			High					C6(Carbamidomet	NPIP-150-250.raw	2	591.31445	1181.62163	0.67	29.72	Unambiguous	DNA topoisomeras	1	3.67	0	1	P11387	1	0	9.61478E-05	321	MS2	18
AVAILcNHQR			Medium					C6(Carbamidomet	NPIP-150-250.raw	3	394.54556	1181.62213	1.10	29.78	Unambiguous	DNA topoisomeras	1	1.39	0	1	P11387	1	0.011373	0.1281087	346	MS2	36
AVAILcNHQR					Medium			C6(Carbamidomet	NP55-75.raw	2	591.31433	1181.62139	0.47	31.76	Unambiguous	DNA topoisomeras	1	3.33	0	1	P11387	1			301	MS2	18
AVAILcNHQR						High		C6(Carbamidomet	NP100-150.raw	2	591.31460	1181.62193	0.93	31.98	Unambiguous	DNA topoisomeras	1	3.65	0	1	P11387	1			315	MS2	18
AVALYFIDK		High							NPIP-40-80.raw	2	520.29620	1039.58513	2.72	54.46	Unambiguous	DNA topoisomeras	4	2.30	0	1	P11387	1	0.006975	0.08645469	103	MS2	16
AVALYFIDK			High						NPIP-150-250.raw	2	520.29608	1039.58489	2.49	54.57	Unambiguous	DNA topoisomeras	4	2.66	0	1	P11387	1	0.001822	0.02354463	101	MS2	16
AVALYFIDK			High						NPIP-150-250.raw	2	520.29614	1039.58501	2.60	55.08	Unambiguous	DNA topoisomeras	4	2.48	0	1	P11387	1	0.003331	0.04353877	104	MS2	16
AVALYFIDKLALR			High						NPIP-150-250.raw	3	498.30264	1492.89338	3.14	68.00	Unambiguous	DNA topoisomeras	4	1.32	1	1	P11387	1	0.002072	0.02905497	43	MS2	48
cDFTQmSQYFK			High					C1(Carbamidomet	NPIP-150-250.raw	2	735.80688	1470.60649	2.47	42.53	Unambiguous	DNA topoisomeras	1	4.05	0	1	P11387	1	0	0.000036739	479	MS2	20
cDFTQmSQYFK						High		C1(Carbamidomet	NP100-150.raw	2	735.80609	1470.60491	1.39	45.01	Unambiguous	DNA topoisomeras	1	3.99	0	1	P11387	1			519	MS2	20
cDFTQMSQYFK			High					C1(Carbamidomet	NPIP-150-250.raw	2	727.80988	1454.61247	3.11	55.86	Unambiguous	DNA topoisomeras	1	4.18	0	1	P11387	1	0	3.74162E-05	582	MS2	20
cDFTQMSQYFK						High		C1(Carbamidomet	NP100-150.raw	2	727.80957	1454.61186	2.69	58.34	Unambiguous	DNA topoisomeras	1	3.71	0	1	P11387	1			573	MS2	20
DEDDADYKPK		Medium							NPIP-40-80.raw	3	399.17664	1195.51535	3.31	17.85	Unambiguous	DNA topoisomeras	1	1.69	0	1	P11387	1	0.013438	0.1514699	367	MS2	36
DEDDADYKPK		High							NPIP-40-80.raw	3	399.17613	1195.51383	2.04	18.36	Unambiguous	DNA topoisomeras	1	1.74	0	1	P11387	1	0.008095	0.1027617	372	MS2	36
DEDDADYKPK			Medium						NPIP-150-250.raw	3	399.17645	1195.51480	2.86	17.52	Unambiguous	DNA topoisomeras	1	2.00	0	1	P11387	1	0.022085	0.2316924	358	MS2	36
DEDDADYKPK			High						NPIP-150-250.raw	2	598.26062	1195.51397	2.16	17.68	Unambiguous	DNA topoisomeras	1	3.52	0	1	P11387	1	0.000153	0.00024335	355	MS2	18
DEDDADYKPK			High						NPIP-150-250.raw	3	399.17697	1195.51636	4.16	18.03	Unambiguous	DNA topoisomeras	1	2.12	0	1	P11387	1	0.000188	0.001237484	353	MS2	36
DEDDADYKPK						High			NP100-150.raw	2	598.26231	1195.51734	4.97	20.16	Unambiguous	DNA topoisomeras	1	3.62	0	1	P11387	1			363	MS2	18
ELTAPDENIPAK		High							NPIP-40-80.raw	2	649.33612	1297.66496	1.14	34.77	Unambiguous	DNA topoisomeras	1	2.84	0	1	P11387	1	0.004396	0.05258103	353	MS2	22
ELTAPDENIPAK			High						NPIP-150-250.raw	2	649.33690	1297.66652	2.33	34.97	Unambiguous	DNA topoisomeras	1	3.00	0	1	P11387	1	0.007163	0.09027239	360	MS2	22
ELTAPDENIPAK			High						NPIP-150-250.raw	2	649.33661	1297.66594	1.89	35.54	Unambiguous	DNA topoisomeras	1	2.88	0	1	P11387	1	0.000153	0.000304114	292	MS2	22
ELTAPDENIPAK						Medium			NP100-150.raw	2	649.33650	1297.66573	1.72	37.29	Unambiguous	DNA topoisomeras	1	3.02	0	1	P11387	1			318	MS2	22
GPVFAPPYEPLPENVK		High							NPIP-40-80.raw	2	877.46528	1753.92328	4.13	55.14	Unambiguous	DNA topoisomeras	1	3.52	0	1	P11387	1	0.000148	0.001644673	328	MS2	30
GPVFAPPYEPLPENVK			High						NPIP-150-250.raw	2	877.46399	1753.92070	2.66	55.11	Unambiguous	DNA topoisomeras	1	4.34	0	1	P11387	1	0.000153	0.000269315	328	MS2	30
GPVFAPPYEPLPENVK			High						NPIP-150-250.raw	2	877.46356	1753.91985	2.18	55.62	Unambiguous	DNA topoisomeras	1	3.41	0	1	P11387	1	0.000188	0.00128767	344	MS2	30
GPVFAPPYEPLPENVK				High					NP55.raw	2	877.46436	1753.92143	3.08	57.74	Unambiguous	DNA topoisomeras	1	4.02	0	1	P11387	1			324	MS2	30
GPVFAPPYEPLPENVK					High				NP55-75.raw	2	877.46295	1753.91863	1.48	57.51	Unambiguous	DNA topoisomeras	1	4.13	0	1	P11387	1			337	MS2	30
GPVFAPPYEPLPENVK						High			NP100-150.raw	2	877.46362	1753.91996	2.24	57.61	Unambiguous	DNA topoisomeras	1	4.13	0	1	P11387	1			341	MS2	30
GPVFAPPYEPLPENVK						Medium			NP100-150.raw	3	585.31116	1753.91892	1.65	57.69	Unambiguous	DNA topoisomeras	1	3.45	0	1	P11387	1			432	MS2	60
HLQDLmEGLTAK			High					M6(Oxidation)	NPIP-150-250.raw	2	686.35112	1371.69496	0.88	36.81	Unambiguous	DNA topoisomeras	1	4.01	0	1	P11387	1	0	2.2121E-05	328	MS2	22
HLQDLmEGLTAK			High					M6(Oxidation)	NPIP-150-250.raw	3	457.90356	1371.69614	1.75	36.85	Unambiguous	DNA topoisomeras	1	3.24	0	1	P11387	1	0.000188	0.000557672	401	MS2	44
HLQDLmEGLTAK						High		M6(Oxidation)	NP100-150.raw	2	686.35071	1371.69414	0.29	39.19	Unambiguous	DNA topoisomeras	1	3.72	0	1	P11387	1			315	MS2	22
HLQDLmEGLTAK						High		M6(Oxidation)	NP100-150.raw	3	457.90326	1371.69522	1.08	39.22	Unambiguous	DNA topoisomeras	1	3.82	0	1	P11387	1			401	MS2	44
HLQDLMEGLTAK			High						NPIP-150-250.raw	2	678.35510	1355.70293	3.02	50.55	Unambiguous	DNA topoisomeras	1	4.18	0	1	P11387	1	0.000153	0.000432702	334	MS2	22
HLQDLMEGLTAK			High						NPIP-150-250.raw	3	452.57285	1355.70398	3.80	50.55	Unambiguous	DNA topoisomeras	1	4.05	0	1	P11387	1	0	2.51394E-05	383	MS2	44
HLQDLMEGLTAK					Medium				NP55-75.raw	3	452.57178	1355.70078	1.44	52.80	Unambiguous	DNA topoisomeras	1	3.68	0	1	P11387	1			386	MS2	44
HLQDLMEGLTAK						High			NP100-150.raw	3	452.57196	1355.70133	1.84	53.01	Unambiguous	DNA topoisomeras	1	3.99	0	1	P11387	1			378	MS2	44
HLQDLMEGLTAK						High			NP100-150.raw	2	678.35443	1355.70159	2.03	53.02	Unambiguous	DNA topoisomeras	1	4.11	0	1	P11387	1			298	MS2	22
ILSYNR			Medium						NPIP-150-250.raw	2	383.21679	765.42630	1.20	26.81	Unambiguous	DNA topoisomeras	3	1.60	0	1	P11387	1	0.011886	0.1316277	194	MS2	10
ImPEDIIINcSK			High					M2(Oxidation); C	NPIP-150-250.raw	2	724.86192	1448.71657	2.85	47.90	Unambiguous	DNA topoisomeras	1	3.58	0	1	P11387	1	0.000153	0.000446121	458	MS2	22
ImPEDIIINcSK						High		M2(Oxidation); C	NP100-150.raw	2	724.86140	1448.71552	2.13	50.35	Unambiguous	DNA topoisomeras	1	3.49	0	1	P11387	1			466	MS2	22
ImPEDIIINcSK						High		M2(Oxidation); C	NP100-150.raw	2	724.86194	1448.71660	2.87	51.11	Unambiguous	DNA topoisomeras	1	3.36	0	1	P11387	1			414	MS2	22
ITVAWcK			High					C6(Carbamidomet	NPIP-150-250.raw	2	439.23502	877.46276	3.05	40.47	Unambiguous	DNA topoisomeras	1	2.16	0	1	P11387	1	0.002803	0.03745241	260	MS2	12
KLEEEEDGKLK		High							NPIP-40-80.raw	3	439.90167	1317.69046	0.57	20.78	Unambiguous	DNA topoisomeras	1	4.81	2	1	P11387	1	0	9.36281E-06	376	MS2	40
KLEEEEDGKLK			High						NPIP-150-250.raw	3	439.90256	1317.69312	2.59	20.77	Unambiguous	DNA topoisomeras	1	4.30	2	1	P11387	1	0	2.79841E-05	401	MS2	40
KLEEEEDGKLK			Medium						NPIP-150-250.raw	4	330.17899	1317.69411	3.34	20.85	Unambiguous	DNA topoisomeras	1	2.56	2	1	P11387	1	0.017559	0.187114	395	MS2	60
KLEEEEDGKLK			High						NPIP-150-250.raw	2	659.35071	1317.69414	3.36	20.97	Unambiguous	DNA topoisomeras	1	4.01	2	1	P11387	1	0.000658	0.006402711	374	MS2	20
KLEEEEDGKLK				Medium					NP55.raw	3	439.90283	1317.69394	3.21	23.15	Unambiguous	DNA topoisomeras	1	3.80	2	1	P11387	1			393	MS2	40
KLEEEEDGKLK					Medium				NP55-75.raw	3	439.90250	1317.69294	2.45	23.01	Unambiguous	DNA topoisomeras	1	3.69	2	1	P11387	1			383	MS2	40
KLEEEEDGKLK						High			NP100-150.raw	3	439.90332	1317.69541	4.32	22.00	Unambiguous	DNA topoisomeras	1	4.17	2	1	P11387	1			376	MS2	40
KLEEEEDGKLK						High			NP100-150.raw	3	439.90353	1317.69605	4.81	23.16	Unambiguous	DNA topoisomeras	1	4.18	2	1	P11387	1			365	MS2	40
KLEEEEDGKLK						High			NP100-150.raw	2	659.35065	1317.69402	3.27	23.35	Unambiguous	DNA topoisomeras	1	3.77	2	1	P11387	1			357	MS2	20
KLEEEEDGKLK						High			NP100-150.raw	3	439.90292	1317.69422	3.42	23.66	Unambiguous	DNA topoisomeras	1	3.92	2	1	P11387	1			389	MS2	40
KWGVPIEK			Medium						NPIP-150-250.raw	3	319.52436	956.55854	2.20	37.60	Unambiguous	DNA topoisomeras	1	1.67	1	1	P11387	1	0.017215	0.1836253	206	MS2	28
LEEQLmK			High					M6(Oxidation)	NPIP-150-250.raw	2	453.73370	906.46013	-0.02	24.17	Unambiguous	DNA topoisomeras	1	2.97	0	1	P11387	1	0.000705	0.006555981	263	MS2	12
LEEQLMK		High							NPIP-40-80.raw	2	445.73706	890.46684	1.81	32.43	Unambiguous	DNA topoisomeras	1	2.42	0	1	P11387	1	0.004396	0.05155847	270	MS2	12
LEEQLMK			High						NPIP-150-250.raw	2	445.73746	890.46764	2.70	32.59	Unambiguous	DNA topoisomeras	1	2.57	0	1	P11387	1	0.001468	0.018648	358	MS2	12
LEVQATDREENK		High							NPIP-40-80.raw	3	477.90787	1431.70905	1.10	22.44	Unambiguous	DNA topoisomeras	1	2.93	1	1	P11387	1	0.000919	0.01025861	580	MS2	44
LEVQATDREENK			Medium						NPIP-150-250.raw	3	477.90796	1431.70932	1.29	22.36	Unambiguous	DNA topoisomeras	1	2.09	1	1	P11387	1	0.019609	0.2063769	586	MS2	44
LEVQATDREENK			High						NPIP-150-250.raw	2	716.35883	1431.71037	2.02	22.44	Unambiguous	DNA topoisomeras	1	3.79	1	1	P11387	1	0.000188	0.001146859	583	MS2	22
LEVQATDREENK						High			NP100-150.raw	2	716.35956	1431.71184	3.04	24.69	Unambiguous	DNA topoisomeras	1	4.00	1	1	P11387	1			580	MS2	22
LNTGILNK			High						NPIP-150-250.raw	2	436.76462	872.52196	2.21	34.89	Unambiguous	DNA topoisomeras	1	2.93	0	1	P11387	1	0.000771	0.009392723	194	MS2	14
LNTGILNK					Medium				NP55-75.raw	2	436.76440	872.52153	1.72	36.96	Unambiguous	DNA topoisomeras	1	3.01	0	1	P11387	1			184	MS2	14
mLDHEYTTK			High					M1(Oxidation)	NPIP-150-250.raw	3	385.17947	1153.52387	3.84	19.27	Unambiguous	DNA topoisomeras	13	1.96	0	1	P11387	1	0.000564	0.005271852	396	MS2	32
MLDHEYTTK			High						NPIP-150-250.raw	2	569.26630	1137.52532	0.70	23.91	Unambiguous	DNA topoisomeras	13	2.37	0	1	P11387	1	0.001468	0.01832227	357	MS2	16
NIITNLSK		High							NPIP-40-80.raw	2	451.76984	902.53240	2.00	41.15	Unambiguous	DNA topoisomeras	1	2.45	0	1	P11387	1	0.003323	0.03828087	202	MS2	14
NIITNLSK			Medium						NPIP-150-250.raw	2	451.77005	902.53282	2.47	41.35	Unambiguous	DNA topoisomeras	1	1.92	0	1	P11387	1	0.049347	0.4786843	271	MS2	14
NLQLFmENK			High					M6(Oxidation)	NPIP-150-250.raw	2	576.79144	1152.57561	3.28	45.38	Unambiguous	DNA topoisomeras	4	2.92	0	1	P11387	1	0.00113	0.01607794	442	MS2	16
NLQLFmENK						Medium		M6(Oxidation)	NP100-150.raw	2	576.79089	1152.57451	2.33	47.94	Unambiguous	DNA topoisomeras	4	3.04	0	1	P11387	1			427	MS2	16
NLQLFMENK			High						NPIP-150-250.raw	2	568.79364	1136.58000	2.72	51.36	Unambiguous	DNA topoisomeras	4	3.35	0	1	P11387	1	0.000611	0.006196006	333	MS2	16
NLQLFMENK						High			NP100-150.raw	2	568.79333	1136.57939	2.18	53.75	Unambiguous	DNA topoisomeras	4	3.33	0	1	P11387	1			332	MS2	16
NLQLFmENKQPEDDLFDR			High					M6(Oxidation)	NPIP-150-250.raw	3	756.69324	2268.06516	2.17	57.12	Unambiguous	DNA topoisomeras	1	4.05	1	1	P11387	1	0	7.50108E-06	1575	MS2	68
NLQLFmENKQPEDDLFDR					Medium			M6(Oxidation)	NP55-75.raw	3	756.69244	2268.06278	1.12	59.53	Unambiguous	DNA topoisomeras	1	3.57	1	1	P11387	1			1594	MS2	68
NLQLFmENKQPEDDLFDR						High		M6(Oxidation)	NP100-150.raw	3	756.69342	2268.06571	2.41	59.51	Unambiguous	DNA topoisomeras	1	4.53	1	1	P11387	1			1602	MS2	68
NLQLFMENKQPEDDLFDR						High			NP100-150.raw	3	751.36182	2252.07090	2.48	63.18	Unambiguous	DNA topoisomeras	1	4.26	1	1	P11387	1			1433	MS2	68
NLQLFmENKQPEDDLFDRLNTGILNK						Medium		M6(Oxidation)	NP100-150.raw	4	781.14862	3121.57265	3.28	68.16	Unambiguous	DNA topoisomeras	1	3.41	2	1	P11387	1			1240	MS2	150
QIALGTSK			Medium						NPIP-150-250.raw	2	409.24292	817.47856	0.90	26.26	Unambiguous	DNA topoisomeras	1	2.26	0	1	P11387	1	0.016546	0.1728516	224	MS2	14
QPEDDLFDR			High						NPIP-150-250.raw	2	567.75812	1134.50896	2.39	40.85	Unambiguous	DNA topoisomeras	1	2.02	0	1	P11387	1	0.005544	0.07253719	376	MS2	16
SmMNLQTK			Medium					M2(Oxidation)	NPIP-150-250.raw	2	484.73016	968.45305	-1.00	24.07	Unambiguous	DNA topoisomeras	1	2.43	0	1	P11387	2	0.027628	0.2844545	398	MS2	14
SMmNLQTK			Medium					M3(Oxidation)	NPIP-150-250.raw	2	484.73016	968.45305	-1.00	24.07	Unambiguous	DNA topoisomeras	1	2.45	0	1	P11387	1	0.031223	0.3147461	398	MS2	14
SMMNLQTK			High						NPIP-150-250.raw	2	476.73398	952.46068	1.66	33.54	Unambiguous	DNA topoisomeras	1	2.65	0	1	P11387	1	0.00027	0.003632241	260	MS2	14
TYNASITLQQQLK			High						NPIP-150-250.raw	2	754.41199	1507.81670	3.43	44.09	Unambiguous	DNA topoisomeras	1	4.67	0	1	P11387	1	0.000238	0.00157097	265	MS2	24
TYNASITLQQQLK				High					NP55.raw	2	754.41101	1507.81474	2.14	46.50	Unambiguous	DNA topoisomeras	1	4.75	0	1	P11387	1			247	MS2	24
TYNASITLQQQLK					High				NP55-75.raw	2	754.41095	1507.81462	2.06	46.48	Unambiguous	DNA topoisomeras	1	4.70	0	1	P11387	1			254	MS2	24
TYNASITLQQQLK						High			NP100-150.raw	2	754.41138	1507.81548	2.62	46.60	Unambiguous	DNA topoisomeras	1	5.16	0	1	P11387	1			270	MS2	24
TYNASITLQQQLK						High			NP100-150.raw	3	503.27631	1507.81437	1.89	46.60	Unambiguous	DNA topoisomeras	1	3.79	0	1	P11387	1			309	MS2	48
VEHINLHPELDGQEYVVEFDFLGK		High							NPIP-40-80.raw	4	707.60706	2827.40639	4.44	67.44	Unambiguous	DNA topoisomeras	1	4.28	0	1	P11387	1	0	9.08352E-06	1285	MS2	138
VEHINLHPELDGQEYVVEFDFLGK			High						NPIP-150-250.raw	4	707.60712	2827.40664	4.52	67.52	Unambiguous	DNA topoisomeras	1	3.85	0	1	P11387	1	0.000153	0.000408223	1274	MS2	138
VTWLVSWTENIQGSIK			High						NPIP-150-250.raw	2	930.99976	1860.99224	3.62	73.09	Unambiguous	DNA topoisomeras	1	3.80	0	1	P11387	1	0.000369	0.004716888	294	MS2	30
WWEEERYPEGIK			Medium						NPIP-150-250.raw	3	541.26203	1621.77153	4.27	46.28	Unambiguous	DNA topoisomeras	1	2.76	1	1	P11387	1	0.024261	0.2534447	774	MS2	44
YImLNPSSR			High					M3(Oxidation)	NPIP-150-250.raw	2	548.77765	1096.54802	2.21	35.14	Unambiguous	DNA topoisomeras	1	2.98	0	1	P11387	1	0.000771	0.008829159	442	MS2	16

	YImLNPSSR						Medium		M3(Oxidation)	NP100-150.raw	2	548.77740	1096.54753	1.77	37.58	Unambiguous	DNA topoisomeras	1	3.00	0	1	P11387	1			467	MS2	16
	YIMLNPSSR			High						NPIP-150-250.raw	2	540.78021	1080.55315	2.28	40.94	Unambiguous	DNA topoisomeras	1	3.25	0	1	P11387	1	0.00027	0.002889659	355	MS2	16
	YIMLNPSSR						Medium			NP100-150.raw	2	540.78040	1080.55351	2.62	43.22	Unambiguous	DNA topoisomeras	1	2.97	0	1	P11387	1			293	MS2	16
	YYNKVPVEK			Medium						NPIP-150-250.raw	2	570.30841	1139.60954	-0.01	26.48	Unambiguous	DNA topoisomeras	1	2.21	1	1	P11387	1	0.039853	0.3945533	335	MS2	16
P11388	DNA topoisomerase 2-alpha OS=Homo sapiens GN=TOP2A PE=1 SV=3 - [**TOP2A_HUMAN**]	31.81	10	35	50	84	1531	174.3																				
	Sequence	A3	B3	C3	D3	E3	F3	G3	Modifications	Spectrum File	Charge	m/z [Da]	MH+ [Da]	ΔM [ppm]	RT [min]	PSM Ambiguity	Protein Description	# Proteins	XCorr	# Missed Cleavage	# Protein Groups	tein Group Accessi	earch Engine Ran	q-Value	PEP	Peptides Matched	MS Order	Total Ions
	AYDIAGSTK			High						NPIP-150-250.raw	2	463.23575	925.46422	1.78	26.33	Unambiguous	DNA topoisomeras	4	2.85	0	1	P11388	1	0.001007	0.01477411	335	MS2	16
	DFFELR			Medium						NPIP-150-250.raw	2	413.70972	826.41216	3.31	54.23	Unambiguous	DNA topoisomeras	4	1.25	0	1	P11388	5	0.029597	0.30172	368	MS2	10
	DKYGVFPLR			High						NPIP-150-250.raw	3	365.53870	1094.60154	2.00	46.58	Unambiguous	DNA topoisomeras	4	2.37	1	1	P11388	1	0.009594	0.1109833	266	MS2	32
	DPALNSGVSQKPDPAK			High						NPIP-150-250.raw	3	541.94995	1623.83530	0.95	26.88	Unambiguous	DNA topoisomeras	4	4.03	0	1	P11388	1	0	2.28307E-06	518	MS2	60
	EKQDEQVGLPGK			Medium						NPIP-150-250.raw	3	443.23413	1327.68784	1.92	27.16	Unambiguous	DNA topoisomeras	4	2.25	1	1	P11388	1	0.015859	0.1687339	375	MS2	44
	ELILFSNSDNER			High						NPIP-150-250.raw	2	718.85638	1436.70549	2.67	52.41	Unambiguous	Isoform Beta-1 of	7	4.32	0	2	Q02880-2;P11388	1	0	1.42949E-05	475	MS2	22
	ELILFSNSDNER						High			NP100-150.raw	2	718.85602	1436.70476	2.16	55.02	Unambiguous	Isoform Beta-1 of	7	3.92	0	2	Q02880-2;P11388	1			469	MS2	22
	ELILFSNSDNER							High		NP200-250.raw	2	718.85764	1436.70801	4.42	55.22	Unambiguous	Isoform Beta-1 of	7	4.51	0	2	Q02880-2;P11388	1			459	MS2	22
	ENMTLQPK			Medium						NPIP-150-250.raw	2	480.74554	960.48381	1.95	28.22	Selected	Isoform Beta-1 of	7	2.15	0	2	Q02880-2;P11388	1	0.030736	0.3106677	344	MS2	14
	EQELDTLK			High						NPIP-150-250.raw	2	488.25461	975.50194	2.64	31.11	Unambiguous	DNA topoisomeras	4	2.14	0	1	P11388	1	0.001468	0.01853478	336	MS2	14
	EVTFVPGLYK			Medium						NPIP-150-250.raw	2	576.81976	1152.63225	1.97	52.82	Unambiguous	Isoform Beta-1 of	8	2.27	0	2	Q02880-2;P11388	1	0.023152	0.2432448	178	MS2	18
	EWLLGMLGAESAK			High						NPIP-150-250.raw	2	702.86566	1404.72405	3.41	69.66	Unambiguous	DNA topoisomeras	4	4.32	0	1	P11388	1	0	2.08268E-06	297	MS2	24
	EWLTNFmEDR			High					M7(Oxidation)	NPIP-150-250.raw	2	678.79974	1356.59221	2.41	52.21	Selected	Isoform Beta-1 of	7	2.68	0	2	Q02880-2;P11388	2	0.000881	0.0132097	560	MS2	18
	FLEEFITPIVK			High						NPIP-150-250.raw	2	668.38361	1335.75994	3.00	65.65	Unambiguous	DNA topoisomeras	4	3.59	0	1	P11388	1	0.00027	0.002953196	148	MS2	20
	FLEEFITPIVK						High			NP100-150.raw	2	668.38385	1335.76042	3.36	67.90	Unambiguous	DNA topoisomeras	4	3.46	0	1	P11388	1			153	MS2	20
	FLEEFITPIVK							High		NP200-250.raw	2	668.38519	1335.76311	5.37	68.24	Unambiguous	DNA topoisomeras	4	3.48	0	1	P11388	1			140	MS2	20
	FLYDDNQR			High						NPIP-150-250.raw	2	535.74982	1070.49236	2.04	33.99	Unambiguous	Isoform Beta-1 of	7	2.35	0	2	Q02880-2;P11388	1	0.00997	0.1153091	488	MS2	14
	GESDDFHMDFDSAVAPR			High						NPIP-150-250.raw	3	632.60272	1895.79361	3.71	50.66	Unambiguous	DNA topoisomeras	4	3.22	0	1	P11388	1	0.000238	0.001557641	1372	MS2	64
	GFQQISFVNSIATSK			High						NPIP-150-250.raw	2	813.93011	1626.85295	2.64	56.73	Unambiguous	DNA topoisomeras	4	5.08	0	1	P11388	1	0	5.70246E-06	256	MS2	28
	GFQQISFVNSIATSK			High						NPIP-150-250.raw	3	542.95544	1626.85178	1.92	56.74	Unambiguous	DNA topoisomeras	4	3.83	0	1	P11388	1	0	5.97949E-05	395	MS2	56
	GFQQISFVNSIATSK						High			NP100-150.raw	3	542.95538	1626.85160	1.80	59.26	Unambiguous	DNA topoisomeras	4	3.92	0	1	P11388	1			383	MS2	56
	GYDSDPVK			High						NPIP-150-250.raw	2	440.70675	880.40621	1.70	22.85	Unambiguous	DNA topoisomeras	4	2.48	0	1	P11388	1	0.000771	0.008279213	186	MS2	14
	HVDYVADQIVTK			High						NPIP-150-250.raw	2	694.36469	1387.72209	0.32	36.81	Unambiguous	DNA topoisomeras	4	5.25	0	1	P11388	1	0	2.54164E-06	308	MS2	22
	HVDYVADQIVTK			High						NPIP-150-250.raw	3	463.24594	1387.72327	1.17	36.93	Unambiguous	DNA topoisomeras	4	4.08	0	1	P11388	1	0	5.27814E-05	368	MS2	44
	IFDEILVNAADNK			High						NPIP-150-250.raw	2	731.38513	1461.76299	3.10	55.16	Unambiguous	Isoform Beta-1 of	8	3.95	0	2	Q02880-2;P11388	1	0.000153	0.000347361	361	MS2	24
	IFDEILVNAADNK			High						NPIP-150-250.raw	3	487.92593	1461.76325	3.27	55.25	Unambiguous	Isoform Beta-1 of	8	3.79	0	2	Q02880-2;P11388	1	0	4.4581E-07	437	MS2	48
	IFDEILVNAADNK						High			NP100-150.raw	2	731.38489	1461.76250	2.76	57.65	Unambiguous	Isoform Beta-1 of	8	4.25	0	2	Q02880-2;P11388	1			375	MS2	24
	IFDEILVNAADNK						High			NP100-150.raw	3	487.92542	1461.76169	2.21	57.77	Unambiguous	Isoform Beta-1 of	8	4.15	0	2	Q02880-2;P11388	1			467	MS2	48
	IFDEILVNAADNK							High		NP200-250.raw	2	731.38617	1461.76506	4.52	57.87	Unambiguous	Isoform Beta-1 of	8	4.15	0	2	Q02880-2;P11388	1			344	MS2	24
	IFDEILVNAADNK							Medium		NP200-250.raw	3	487.92667	1461.76545	4.78	57.92	Unambiguous	Isoform Beta-1 of	8	3.41	0	2	Q02880-2;P11388	1			418	MS2	48
	IIIENKPK		Medium							NPIP-40-80.raw	3	318.87143	954.59974	1.51	23.79	Unambiguous	DNA topoisomeras	4	1.68	0	1	P11388	1	0.016662	0.1821939	32	MS2	28
	IIIENKPK			High						NPIP-150-250.raw	2	477.80347	954.59966	1.43	23.71	Unambiguous	DNA topoisomeras	4	2.52	0	1	P11388	1	0.000238	0.001583188	32	MS2	14
	IIIENKPK			High						NPIP-150-250.raw	3	318.87140	954.59964	1.42	23.72	Unambiguous	DNA topoisomeras	4	2.15	0	1	P11388	1	0.008102	0.09612764	32	MS2	28
	IKNENTEGSPQEDGVELEGLK			High						NPIP-150-250.raw	3	762.70984	2286.11496	2.31	41.30	Unambiguous	DNA topoisomeras	4	5.64	1	1	P11388	1	0	3.36329E-09	1252	MS2	80
	ILNVR			Medium						NPIP-150-250.raw	2	307.70337	614.39946	1.64	27.49	Selected	Isoform Beta-1 of	12	1.32	0	2	Q02880-2;P11388	2	0.029567	0.3010378	103	MS2	8
	ImImTDQDQDGSHIK			High					M2(Oxidation); M	NPIP-150-250.raw	3	588.60425	1763.79819	2.40	29.97	Unambiguous	Isoform Beta-1 of	7	4.73	0	2	Q02880-2;P11388	1	0	4.58423E-08	1127	MS2	56
	ImImTDQDQDGSHIK						High		M2(Oxidation); M	NP100-150.raw	3	588.60413	1763.79782	2.20	32.20	Unambiguous	Isoform Beta-1 of	7	4.34	0	2	Q02880-2;P11388	1			1135	MS2	56
	IPNFDVR			High						NPIP-150-250.raw	2	430.73575	860.46422	1.97	42.06	Unambiguous	DNA topoisomeras	4	2.04	0	1	P11388	1	0.001848	0.02470008	339	MS2	12
	KEWLLGMLGAESAK			High						NPIP-150-250.raw	3	511.61038	1532.81659	1.55	62.68	Unambiguous	DNA topoisomeras	4	2.51	1	1	P11388	1	0	3.07411E-05	353	MS2	52
	KEWLLGMLGAESAK						Medium			NP100-150.raw	3	511.61075	1532.81769	2.26	65.21	Unambiguous	DNA topoisomeras	4	3.68	1	1	P11388	1			355	MS2	52
	KEWLTNFmEDR			High					M8(Oxidation)	NPIP-150-250.raw	3	495.56845	1484.69080	4.64	46.09	Unambiguous	Isoform Beta-1 of	7	3.87	1	2	Q02880-2;P11388	1	0	9.61969E-05	662	MS2	40
	KEWLTNFMEDR			High						NPIP-150-250.raw	3	490.23584	1468.69297	2.70	55.79	Unambiguous	Isoform Beta-1 of	7	4.11	1	2	Q02880-2;P11388	1	0	9.82995E-05	649	MS2	40
	KQTTLAFKPIK			High						NPIP-150-250.raw	3	425.60028	1274.78629	2.47	35.68	Unambiguous	DNA topoisomeras	4	3.19	1	1	P11388	1	0.000188	0.00054361	27	MS2	40
	KSPSDLWK			High						NPIP-150-250.raw	3	320.84402	960.51752	2.68	34.48	Unambiguous	Isoform Beta-1 of	7	2.75	1	2	Q02880-2;P11388	1	0.009084	0.1049212	329	MS2	28
	KYDTVLDILR			High						NPIP-150-250.raw	3	412.57236	1235.70252	2.47	58.08	Unambiguous	DNA topoisomeras	4	3.39	1	1	P11388	1	0.000238	0.00194727	170	MS2	36
	KYDTVLDILR			High						NPIP-150-250.raw	2	618.35516	1235.70305	2.90	58.15	Unambiguous	DNA topoisomeras	4	2.99	1	1	P11388	1	0.00027	0.003581974	162	MS2	18
	KYDTVLDILR						Medium			NP100-150.raw	3	412.57248	1235.70288	2.77	60.54	Unambiguous	DNA topoisomeras	4	3.65	1	1	P11388	1			169	MS2	36
	LcNIFSTK			High					C2(Carbamidomet	NPIP-150-250.raw	2	491.75644	982.50560	2.99	44.41	Unambiguous	Isoform Beta-1 of	7	2.73	0	2	Q02880-2;P11388	1	0.00027	0.003062967	389	MS2	14
	LQTSLTcNSMVLFDHVGcLK			High					C7(Carbamidomet	NPIP-150-250.raw	3	775.04816	2323.12992	2.37	62.51	Unambiguous	DNA topoisomeras	4	4.08	0	1	P11388	1	0.000188	0.000835342	1406	MS2	76
	mQSLDKDIVALMVR			High					M1(Oxidation)	NPIP-150-250.raw	3	545.62628	1634.86429	2.30	61.28	Unambiguous	DNA topoisomeras	4	4.04	1	1	P11388	1	0	0.000102303	372	MS2	52
	mQSLDKDIVALMVR						High		M1(Oxidation)	NP100-150.raw	3	545.62689	1634.86612	3.42	63.80	Unambiguous	DNA topoisomeras	4	4.64	1	1	P11388	1			345	MS2	52
	MQSLDKDIVALmVR			High					M12(Oxidation)	NPIP-150-250.raw	3	545.62634	1634.86448	2.42	53.18	Unambiguous	DNA topoisomeras	4	3.58	1	1	P11388	1	0.000188	0.001221367	378	MS2	52
	MQSLDKDIVALMVR		High							NPIP-40-80.raw	3	540.29523	1618.87113	3.41	64.50	Unambiguous	DNA topoisomeras	4	3.39	1	1	P11388	1	0	0.000139047	328	MS2	52
	MQSLDKDIVALMVR			High						NPIP-150-250.raw	3	540.29504	1618.87058	3.07	64.53	Unambiguous	DNA topoisomeras	4	4.64	1	1	P11388	1	0	4.26375E-07	361	MS2	52
	MQSLDKDIVALMVR						High			NP100-150.raw	3	540.29480	1618.86985	2.62	66.96	Unambiguous	DNA topoisomeras	4	4.34	1	1	P11388	1			366	MS2	52
	NEKEQELDTLKR			High						NPIP-150-250.raw	3	501.59940	1502.78363	1.77	26.55	Unambiguous	DNA topoisomeras	4	3.44	2	1	P11388	1	0.000238	0.001976948	444	MS2	44
	NHmWIFVNALIENPTFDSQTK			High					M3(Oxidation)	NPIP-150-250.raw	3	841.07825	2521.22019	0.82	68.62	Unambiguous	DNA topoisomeras	4	4.17	0	1	P11388	1	0	0.00011786	1378	MS2	80
	NKQEMAFYSLPEFEEWK			High						NPIP-150-250.raw	3	726.00861	2176.01126	2.58	65.63	Unambiguous	DNA topoisomeras	4	4.03	1	1	P11388	1	0.000238	0.001556503	1515	MS2	64
	NSTEcTLILTEGDSAK			High					C5(Carbamidomet	NPIP-150-250.raw	2	869.91455	1738.82182	3.09	43.34	Unambiguous	DNA topoisomeras	4	5.33	0	1	P11388	1	0	6.64661E-07	727	MS2	30
	NYEDEDSLK			High						NPIP-150-250.raw	2	556.74152	1112.47576	1.34	26.75	Unambiguous	DNA topoisomeras	4	2.04	0	1	P11388	1	0.000851	0.01147298	274	MS2	16
	QImENAEINNIIK			High					M3(Oxidation)	NPIP-150-250.raw	2	773.40283	1545.79839	2.71	46.83	Unambiguous	Isoform Beta-1 of	7	4.41	0	2	Q02880-2;P11388	1	0	7.0743E-05	340	MS2	24
	QImENAEINNIIK						High		M3(Oxidation)	NP100-150.raw	2	773.40240	1545.79753	2.16	49.31	Unambiguous	Isoform Beta-1 of	7	4.26	0	2	Q02880-2;P11388	1			315	MS2	24
	QIMENAEINNIIK			High						NPIP-150-250.raw	2	765.40552	1529.80376	2.93	51.92	Unambiguous	Isoform Beta-1 of	7	4.40	0	2	Q02880-2;P11388	1	0	2.87498E-06	337	MS2	24
	QIMENAEINNIIK						High			NP100-150.raw	2	765.40515	1529.80303	2.45	54.46	Unambiguous	Isoform Beta-1 of	7	4.05	0	2	Q02880-2;P11388	1			319	MS2	24
	QIMENAEINNIIK							High		NP200-250.raw	2	765.40223	1529.79717	-1.38	54.60	Unambiguous	Isoform Beta-1 of	7	3.50	0	2	Q02880-2;P11388	1			376	MS2	24
	QTTLAFKPIKK			High						NPIP-150-250.raw	4	319.45157	1274.78444	1.02	33.71	Unambiguous	DNA topoisomeras	4	2.01	1	1	P11388	1	0.000771	0.008210947	35	MS2	60
	RAYDIAGSTK			High						NPIP-150-250.raw	2	541.28632	1081.56536	1.54	23.28	Unambiguous	DNA topoisomeras	4	3.47	1	1	P11388	1	0.000851	0.01067797	297	MS2	18
	RDPALNSGVSQKPDPAK	High								NPIP-10-40.raw	3	593.98468	1779.93949	2.59	24.63	Unambiguous	DNA topoisomeras	4	3.75	1	1	P11388	1	0	0.000224664	397	MS2	64
	RDPALNSGVSQKPDPAK			High						NPIP-150-250.raw	3	593.98395	1779.93729	1.35	24.49	Unambiguous	DNA topoisomeras	4	3.82	1	1	P11388	1	0	1.13594E-05	400	MS2	64
	SFGSTcQLSEK			High					C6(Carbamidomet	NPIP-150-250.raw	2	622.28632	1243.56536	2.40	31.01	Unambiguous	DNA topoisomeras	4	3.23	0	1	P11388	1	0.000238	0.001642736	481	MS2	20
	SPSDLWK			High						NPIP-150-250.raw	2	416.71481	832.42235	2.85	38.48	Unambiguous	Isoform Beta-1 of	7	2.40	0	2	Q02880-2;P11388	1	0.001998	0.02812004	231	MS2	12
	SVVSDLEADDVK			High						NPIP-150-250.raw	2	638.81873	1276.63017	2.67	44.67	Unambiguous	DNA topoisomeras	4	4.21	0	1	P11388	1	0	4.85749E-05	430	MS2	22
	TLAVSGLGVVGR			High						NPIP-150-250.raw	2	564.84149	1128.67571	1.87	48.07	Unambiguous	DNA topoisomeras	4	4.54	0	1	P11388	1	0	6.03892E-07	121	MS2	22
	TLAVSGLGVVGR						High			NP100-150.raw	2	564.84143	1128.67558	1.76	50.68	Unambiguous	DNA topoisomeras	4	4.73	0	1	P11388	1			121	MS2	22
	TLAVSGLGVVGR							High		NP200-250.raw	2	564.84235	1128.67742	3.38	50.79	Unambiguous	DNA topoisomeras	4	4.48	0	1	P11388	1			115	MS2	22
	TPPLITDYR			High						NPIP-150-250.raw	2	538.29419	1075.58110	2.63	42.51	Unambiguous	DNA topoisomeras	4	3.06	0	1	P11388	1	0.000188	0.00070818	196	MS2	16
	VLFTcFK			Medium					C5(Carbamidomet	NPIP-150-250.raw	2	457.74527	914.48326	3.05	49.86	Unambiguous	Isoform Beta-1 of	7	1.63	0	2	Q02880-2;P11388	2	0.026846	0.2786565	167	MS2	12
	YDTVLDILR			High						NPIP-150-250.raw	2	554.30707	1107.60686	2.14	63.15	Unambiguous	DNA topoisomeras	4	3.04	0	1	P11388	1	0.000188	0.000844845	204	MS2	16
	YGVFPLR			High						NPIP-150-250.raw	2	426.24405	851.48082	3.98	49.88	Unambiguous	Isoform Beta-1 of	7	2.31	0	2	Q02880-2;P11388	1	0.001589	0.02026924	187	MS2	12
	YIFTmLSSLAR			High					M5(Oxidation)	NPIP-150-250.raw	2	659.34979	1317.69231	3.89	59.55	Unambiguous	DNA topoisomeras	4	4.04	0	1	P11388	1	0	8.07416E-06	382	MS2	20
	YIFTMLSSLAR			High						NPIP-150-250.raw	2	651.35254	1301.69780	4.25	69.63	Unambiguous	DNA topoisomeras	4	3.48	0	1	P11388	1	0.000153	0.000264284	338	MS2	20
	YIFTMLSSLAR						High			NP100-150.raw	2	651.35193	1301.69658	3.31	72.01	Unambiguous	DNA topoisomeras	4	3.86	0	1	P11388	1			321	MS2	20
	YIFTMLSSLAR							High		NP200-250.raw	2	651.35283	1301.69838	4.69	72.23	Unambiguous	DNA topoisomeras	4	3.72	0	1	P11388	1			316	MS2	20
	YSGPEDDAAISLAFSK			High						NPIP-150-250.raw	2	835.90186	1670.79643	3.32	54.13	Unambiguous	DNA topoisomeras	4	4.33	0	1	P11388	1	0	0.000172412	660	MS2	30
Q02880-2	Isoform Beta-1 of DNA topoisomerase 2-beta OS=Homo sapiens GN=TOP2B - [**TOP2B_HUMAN**]	26.03	11	25	41	82	1621	182.5																				
	Sequence	A3	B3	C3	D3	E3	F3	G3	Modifications	Spectrum File	Charge	m/z [Da]	MH+ [Da]	ΔM [ppm]	RT [min]	PSM Ambiguity	Protein Description	# Proteins	XCorr	# Missed Cleavage	# Protein Groups	tein Group Accessi	earch Engine Ran	q-Value	PEP	Peptides Matched	MS Order	Total Ions
	AGVSVKPFQVK			High						NPIP-150-250.raw	3	387.23444	1159.68875	4.59	38.68	Unambiguous	Isoform Beta-1 of	3	1.77	0	1	Q02880-2	1	0.003116	0.03976772	88	MS2	40
	DLIQmLVQR							High	M5(Oxidation)	NP200-250.raw	2	566.31524	1131.62321	3.62	60.73	Unambiguous	Isoform Beta-1 of	3	3.26	0	1	Q02880-2	1			267	MS2	16
	DLIQMLVQR						High			NP100-150.raw	2	558.31702	1115.62676	2.29	68.14	Unambiguous	Isoform Beta-1 of	3	3.74	0	1	Q02880-2	1			235	MS2	16
	DLIQMLVQR							High		NP200-250.raw	2	558.31866	1115.63005	5.24	68.08	Unambiguous	Isoform Beta-1 of	3	3.55	0	1	Q02880-2	1			195	MS2	16
	EDLAAFVEELDKVESQER						Medium			NP100-150.raw	3	703.01337	2107.02555	3.07	71.85	Unambiguous	Isoform Beta-1 of	3	3.58	1	1	Q02880-2	1			1101	MS2	68
	EFFDLR			Medium						NPIP-150-250.raw	2	413.70901	826.41075	1.61	52.16	Selected	Isoform Beta-1 of	4	1.27	0	1	Q02880-2	2	0.034832	0.3465431	400	MS2	10
	EIVNNVR			High						NPIP-150-250.raw	2	422.23843	843.46959	1.49	23.55	Unambiguous	Isoform Beta-1 of	3	2.18	0	1	Q02880-2	1	0.006329	0.0786464	204	MS2	12
	ELILFSNSDNER			High						NPIP-150-250.raw	2	718.85638	1436.70549	2.67	52.41	Unambiguous	Isoform Beta-1 of	7	4.32	0	2	Q02880-2;P11388	1	0	1.42949E-05	475	MS2	22
	ELILFSNSDNER						High			NP100-150.raw	2	718.85602	1436.70476	2.16	55.02	Unambiguous	Isoform Beta-1 of	7	3.92	0	2	Q02880-2;P11388	1			469	MS2	22
	ELILFSNSDNER							High		NP200-250.raw	2	718.85764	1436.70801	4.42	55.22	Unambiguous	Isoform Beta-1 of	7	4.51	0	2	Q02880-2;P11388	1			459	MS2	22
	ENMTLQPK			Medium						NPIP-150-250.raw	2	480.74554	960.48381	1.95	28.22	Selected	Isoform Beta-1 of	7	2.15	0	2	Q02880-2;P11388	1	0.030736	0.3106677	344	MS2	14
	EVTFVPGLYK			Medium						NPIP-150-250.raw	2	576.81976	1152.63225	1.97	52.82	Unambiguous	Isoform Beta-1 of	8	2.27	0	2	Q02880-2;P11388	1	0.023152	0.2432448	178	MS2	18
	EWLTNFmEDR			High					M7(Oxidation)	NPIP-150-250.raw	2	678.79974	1356.59221	2.41	52.21	Selected	Isoform Beta-1 of	7	2.68	0	2	Q02880-2;P11388	2	0.000881	0.0132097	560	MS2	18
	EWLVGMLGAESTK						High			NP100-150.raw	2	710.86615	1420.72502	7.65	65.46	Unambiguous	Isoform Beta-1 of	4	3.66	0	1	Q02880-2	1			313	MS2	24
	FLYDDNQR			High						NPIP-150-250.raw	2	535.74982	1070.49236	2.04	33.99	Unambiguous	Isoform Beta-1 of	7	2.35	0	2	Q02880-2;P11388	1	0.00997	0.1153091	488	MS2	14
	GFQQISFVNSIATTK			High						NPIP-150-250.raw	3	547.62787	1640.86905	2.89	57.33	Unambiguous	Isoform Beta-1 of	3	3.96	0	1	Q02880-2	1	0	1.9422E-06	358	MS2	56
	GFQQISFVNSIATTK						High			NP100-150.raw	3	547.62750	1640.86795	2.22	59.68	Unambiguous	Isoform Beta-1 of	3	5.18	0	1	Q02880-2	1			372	MS2	56
	GFQQISFVNSIATTK						High			NP100-150.raw	2	820.93817	1640.86907	2.90	59.79	Unambiguous	Isoform Beta-1 of	3	5.67	0	1	Q02880-2	1			288	MS2	28
	GFQQISFVNSIATTK							Medium		NP200-250.raw	3	547.62994	1640.87528	6.68	59.91	Unambiguous	Isoform Beta-1 of	3	3.31	0	1	Q02880-2	1			335	MS2	56
	HGFLEEFITPIVK		High							NPIP-40-80.raw	3	510.61819	1529.84003	2.43	67.58	Unambiguous	Isoform Beta-1 of	3	3.50	0	1	Q02880-2	1	0	0.00012539	277	MS2	48
	HGFLEEFITPIVK			High						NPIP-150-250.raw	3	510.61796	1529.83932	1.97	67.56	Unambiguous	Isoform Beta-1 of	3	3.89	0	1	Q02880-2	1	0	4.12386E-05	257	MS2	48
	HGFLEEFITPIVK					Medium				NP55-75.raw	3	510.61801	1529.83948	2.07	69.81	Unambiguous	Isoform Beta-1 of	3	3.88	0	1	Q02880-2	1			278	MS2	48
	HGFLEEFITPIVK						High			NP100-150.raw	3	510.61868	1529.84150	3.39	69.88	Unambiguous	Isoform Beta-1 of	3	4.19	0	1	Q02880-2	1			267	MS2	48
	HGFLEEFITPIVK							Medium		NP200-250.raw	3	510.62036	1529.84653	6.68	70.13	Unambiguous	Isoform Beta-1 of	3	3.48	0	1	Q02880-2	1			229	MS2	48

HSLEcTLILTEGDSAK		Medium		C5(Carbamidomet	NP100-150.raw	3	591.96265	1773.87339	2.58	48.97	Unambiguous	Isoform Beta-1 of	3	3.47	0	1	Q02880-2	1			722	MS2	60
HVDYVVDQVVGK	High				NPIP-150-250.raw	2	679.36017	1357.71306	1.45	40.51	Unambiguous	Isoform Beta-1 of	3	4.94	0	1	Q02880-2	1	0	1.37336E-06	312	MS2	22
HVDYVVDQVVGK		High			NP100-150.raw	3	453.24243	1357.71274	1.22	42.87	Unambiguous	Isoform Beta-1 of	3	3.88	0	1	Q02880-2	1			385	MS2	44
HVDYVVDQVVGK			High		NP200-250.raw	2	679.36328	1357.71929	6.04	43.21	Unambiguous	Isoform Beta-1 of	3	4.78	0	1	Q02880-2	1			345	MS2	22
HVDYVVDQVVGK			High		NP200-250.raw	3	453.24374	1357.71668	4.12	43.22	Unambiguous	Isoform Beta-1 of	3	3.79	0	1	Q02880-2	1			363	MS2	44
IFDEILVNAADNK	High				NPIP-150-250.raw	2	731.38513	1461.76299	3.10	55.16	Unambiguous	Isoform Beta-1 of	8	3.95	0	2	Q02880-2;P11388	1	0.000153	0.000347361	361	MS2	24
IFDEILVNAADNK	High				NPIP-150-250.raw	3	487.92593	1461.76325	3.27	55.25	Unambiguous	Isoform Beta-1 of	8	3.79	0	2	Q02880-2;P11388	1	0	4.4581E-07	437	MS2	48
IFDEILVNAADNK		High			NP100-150.raw	2	731.38489	1461.76250	2.76	57.65	Unambiguous	Isoform Beta-1 of	8	4.25	0	2	Q02880-2;P11388	1			375	MS2	24
IFDEILVNAADNK		High			NP100-150.raw	3	487.92542	1461.76169	2.21	57.77	Unambiguous	Isoform Beta-1 of	8	4.15	0	2	Q02880-2;P11388	1			467	MS2	48
IFDEILVNAADNK			High		NP200-250.raw	2	731.38617	1461.76506	4.52	57.87	Unambiguous	Isoform Beta-1 of	8	4.15	0	2	Q02880-2;P11388	1			344	MS2	24
IFDEILVNAADNK			Medium		NP200-250.raw	3	487.92667	1461.76545	4.78	57.92	Unambiguous	Isoform Beta-1 of	8	3.41	0	2	Q02880-2;P11388	1			418	MS2	48
ILNVR	Medium				NPIP-150-250.raw	2	307.70337	614.39946	1.64	27.49	Selected	Isoform Beta-1 of	12	1.32	0	2	Q02880-2;P11388	2	0.029567	0.3010378	103	MS2	8
ImImTDQDQDGSHIK	High			M2(Oxidation); M	NPIP-150-250.raw	3	588.60425	1763.79819	2.40	29.97	Unambiguous	Isoform Beta-1 of	7	4.73	0	2	Q02880-2;P11388	1	0	4.58423E-08	1127	MS2	56
ImImTDQDQDGSHIK		High		M2(Oxidation); M	NP100-150.raw	3	588.60413	1763.79782	2.20	32.20	Unambiguous	Isoform Beta-1 of	7	4.34	0	2	Q02880-2;P11388	1			1135	MS2	56
KEWLTNFmEDR	High			M8(Oxidation)	NPIP-150-250.raw	3	495.56845	1484.69080	4.64	46.09	Unambiguous	Isoform Beta-1 of	7	3.87	1	2	Q02880-2;P11388	1	0	9.61969E-05	662	MS2	40
KEWLTNFMEDR	High				NPIP-150-250.raw	3	490.23584	1468.69297	2.70	55.79	Unambiguous	Isoform Beta-1 of	7	4.11	1	2	Q02880-2;P11388	1	0	9.82995E-05	649	MS2	40
KSPSDLWK	High				NPIP-150-250.raw	3	320.84402	960.51752	2.68	34.48	Unambiguous	Isoform Beta-1 of	7	2.75	1	2	Q02880-2;P11388	1	0.009084	0.1049212	329	MS2	28
KYETVQDILK	Medium				NPIP-150-250.raw	2	618.84711	1236.68694	2.80	45.03	Unambiguous	Isoform Beta-1 of	4	2.37	1	1	Q02880-2	1	0.041685	0.4132991	220	MS2	18
KYETVQDILK			Medium		NP200-250.raw	3	412.90094	1236.68827	3.88	47.81	Unambiguous	Isoform Beta-1 of	4	3.25	1	1	Q02880-2	1			223	MS2	36
LAQAEAAGLHK	High				NPIP-150-250.raw	3	370.20929	1108.61332	2.10	23.79	Unambiguous	Isoform Beta-1 of	3	3.16	0	1	Q02880-2	1	0.000188	0.001322709	236	MS2	40
LAQAEAAGLHK	High				NPIP-150-250.raw	2	554.80981	1108.61235	1.23	23.84	Unambiguous	Isoform Beta-1 of	3	3.37	0	1	Q02880-2	1	0.000153	0.000446094	244	MS2	20
LAQAEAAGLHK		High			NP100-150.raw	2	554.81061	1108.61394	2.66	25.98	Unambiguous	Isoform Beta-1 of	3	4.01	0	1	Q02880-2	1			229	MS2	20
LcNIFSTK	High			C2(Carbamidomet	NPIP-150-250.raw	2	491.75644	982.50560	2.99	44.41	Unambiguous	Isoform Beta-1 of	7	2.73	0	2	Q02880-2;P11388	1	0.00027	0.003062967	389	MS2	14
LDKDIVALMTR		Medium			NP100-150.raw	3	425.57724	1274.71717	2.67	54.45	Unambiguous	Isoform Beta-1 of	3	3.63	1	1	Q02880-2	1			178	MS2	40
LDKDIVALMTR			High		NP200-250.raw	3	425.57773	1274.71863	3.82	54.65	Unambiguous	Isoform Beta-1 of	3	3.65	1	1	Q02880-2	1			180	MS2	40
LHGLPEQFLYGTATK	High				NPIP-150-250.raw	3	558.96777	1674.88877	2.22	52.52	Unambiguous	Isoform Beta-1 of	3	2.98	0	1	Q02880-2	1	0.000188	0.000885451	396	MS2	56
LIEVVK	Medium				NPIP-150-250.raw	2	350.73447	700.46166	1.81	34.28	Unambiguous	Cytochrome c oxi	7	1.20	0	2	H3BRM5;Q02880-	1	0.034639	0.3454588	97	MS2	10
LIEVVK	Medium				NPIP-150-250.raw	2	350.73477	700.46227	2.68	41.30	Selected	Cytochrome c oxi	7	1.49	0	2	H3BRM5;Q02880-	1	0.015618	0.1641186	105	MS2	10
LLFPAVDDNLLK	High				NPIP-150-250.raw	2	679.39264	1357.77800	3.94	65.93	Unambiguous	Isoform Beta-1 of	3	2.88	0	1	Q02880-2	1	0.000188	0.00146149	142	MS2	22
LLFPAVDDNLLK		Medium			NP100-150.raw	2	679.39209	1357.77690	3.13	68.26	Unambiguous	Isoform Beta-1 of	3	3.01	0	1	Q02880-2	1			123	MS2	22
LLFPAVDDNLLK			Medium		NP200-250.raw	2	679.39331	1357.77934	4.93	68.44	Unambiguous	Isoform Beta-1 of	3	2.75	0	1	Q02880-2	1			137	MS2	22
NKQELSFYSIPEFDEWKK		High			NP100-150.raw	4	572.78790	2288.12978	2.76	63.59	Unambiguous	Isoform Beta-1 of	3	4.30	2	1	Q02880-2	1			1186	MS2	102
NTVEITELPVR		High			NP100-150.raw	2	635.85522	1270.70317	2.34	50.03	Unambiguous	Isoform Beta-1 of	3	3.82	0	1	Q02880-2	1			181	MS2	20
NTVEITELPVR			High		NP200-250.raw	2	635.85632	1270.70537	4.07	50.09	Unambiguous	Isoform Beta-1 of	3	3.63	0	1	Q02880-2	1			155	MS2	20
QELSFYSIPEFDEWKK	High				NPIP-150-250.raw	3	682.66888	2045.99210	3.20	65.18	Unambiguous	Isoform Beta-1 of	3	2.70	1	1	Q02880-2	1	0.00027	0.002485287	1076	MS2	60
QImENAEINNIIK	High			M3(Oxidation)	NPIP-150-250.raw	2	773.40283	1545.79839	2.71	46.83	Unambiguous	Isoform Beta-1 of	7	4.41	0	2	Q02880-2;P11388	1	0	7.0743E-05	340	MS2	24
QImENAEINNIIK		High		M3(Oxidation)	NP100-150.raw	2	773.40240	1545.79753	2.16	49.31	Unambiguous	Isoform Beta-1 of	7	4.26	0	2	Q02880-2;P11388	1			315	MS2	24
QIMENAEINNIIK	High				NPIP-150-250.raw	2	765.40552	1529.80376	2.93	51.92	Unambiguous	Isoform Beta-1 of	7	4.40	0	2	Q02880-2;P11388	1	0	2.87498E-06	337	MS2	24
QIMENAEINNIIK		High			NP100-150.raw	2	765.40515	1529.80303	2.45	54.46	Unambiguous	Isoform Beta-1 of	7	4.05	0	2	Q02880-2;P11388	1			319	MS2	24
QIMENAEINNIIK			High		NP200-250.raw	2	765.40223	1529.79717	-1.38	54.60	Unambiguous	Isoform Beta-1 of	7	3.50	0	2	Q02880-2;P11388	1			376	MS2	24
RLHGLPEQFLYGTATK		High			NP100-150.raw	3	611.00110	1830.98874	1.41	52.14	Unambiguous	Isoform Beta-1 of	3	4.69	1	1	Q02880-2	1			290	MS2	60
SLAVSGLGVIGR		High			NP100-150.raw	2	564.84167	1128.67607	2.19	54.36	Unambiguous	Isoform Beta-1 of	3	4.86	0	1	Q02880-2	1			123	MS2	22
SLAVSGLGVIGR			High		NP200-250.raw	2	564.84253	1128.67778	3.70	54.67	Unambiguous	Isoform Beta-1 of	3	4.75	0	1	Q02880-2	1			133	MS2	22
SPSDLWK	High				NPIP-150-250.raw	2	416.71481	832.42235	2.85	38.48	Unambiguous	Isoform Beta-1 of	7	2.40	0	2	Q02880-2;P11388	1	0.001998	0.02812004	231	MS2	12
SQDFGNLFSFPSYSQK	High				NPIP-150-250.raw	2	926.43304	1851.85881	2.13	65.75	Unambiguous	Isoform Beta-1 of	3	5.62	0	1	Q02880-2	1	0	3.24447E-07	1005	MS2	30
SQDFGNLFSFPSYSQK		Medium			NP100-150.raw	3	617.95850	1851.86094	3.28	68.21	Unambiguous	Isoform Beta-1 of	3	3.64	0	1	Q02880-2	1			1168	MS2	60
SQDFGNLFSFPSYSQK			High		NP200-250.raw	2	926.43628	1851.86528	5.63	68.42	Unambiguous	Isoform Beta-1 of	3	3.50	0	1	Q02880-2	1			930	MS2	30
TPALISDYKEYHTDTTVK		High			NP100-150.raw	4	521.26617	2082.04287	1.84	43.75	Unambiguous	Isoform Beta-1 of	3	4.21	1	1	Q02880-2	1			906	MS2	102
VIHELANER	High				NPIP-150-250.raw	3	360.86502	1080.58051	0.77	24.11	Unambiguous	Isoform Beta-1 of	3	2.95	0	1	Q02880-2	1	0.000188	0.0005673	289	MS2	32
VLFTcFK	Medium			C5(Carbamidomet	NPIP-150-250.raw	2	457.74527	914.48326	3.05	49.86	Unambiguous	Isoform Beta-1 of	7	1.63	0	2	Q02880-2;P11388	2	0.026846	0.2786565	167	MS2	12
YAGPEDDAAITLAFSK	High				NPIP-150-250.raw	2	834.91272	1668.81816	3.92	56.07	Unambiguous	Isoform Beta-1 of	3	4.39	0	1	Q02880-2	1	0	3.40867E-05	663	MS2	30
YAGPEDDAAITLAFSK		High			NP100-150.raw	2	834.91168	1668.81609	2.68	58.51	Unambiguous	Isoform Beta-1 of	3	5.21	0	1	Q02880-2	1			648	MS2	30
YAGPEDDAAITLAFSK			High		NP200-250.raw	2	834.91358	1668.81988	4.95	58.76	Unambiguous	Isoform Beta-1 of	3	5.22	0	1	Q02880-2	1			656	MS2	30
YGVFPLR	High				NPIP-150-250.raw	2	426.24405	851.48082	3.98	49.88	Unambiguous	Isoform Beta-1 of	7	2.31	0	2	Q02880-2;P11388	1	0.001589	0.02026924	187	MS2	12
YIFTmLSTLAR		High		M5(Oxidation)	NP100-150.raw	2	666.35730	1331.70732	3.37	61.71	Unambiguous	Isoform Beta-1 of	3	3.43	0	1	Q02880-2	1			321	MS2	20
YIFTMLSTLAR	High				NPIP-150-250.raw	2	658.35956	1315.71184	2.98	70.07	Unambiguous	Isoform Beta-1 of	3	3.12	0	1	Q02880-2	1	0.001431	0.01804148	290	MS2	20
YIFTMLSTLAR		High			NP100-150.raw	2	658.35919	1315.71111	2.42	72.15	Unambiguous	Isoform Beta-1 of	3	3.39	0	1	Q02880-2	1			319	MS2	20
YIFTMLSTLAR			High		NP200-250.raw	2	658.36118	1315.71509	5.45	72.32	Unambiguous	Isoform Beta-1 of	3	3.36	0	1	Q02880-2	1			315	MS2	20

Human Jurkat Th1 cells: nuclear fraction (2 step IP with anti-Flag and -Myc Abs)

P11387	DNA topoisomerase 1 OS=Homo sapiens GN=TOP1 PE=1 SV=2 - [**TOP1**_HUMAN]	31.90	13	25	25	95	765	90.7																					
	Sequence	A3	B3	C3	D3	E3	F3	G3	H3	Modifications	Spectrum File	Charge	m/z [Da]	MH+ [Da]	ΔM [ppm]	RT [min]	PSM Ambiguity	rotein Description	# Proteins	XCorr	# Missed Cleavage	# Protein Groups	tein Group Accessi	earch Engine Ran	q-Value	PEP	Peptides Matched	MS Order	Total Ions
	AEEVATFFAK			High							Koustav13.raw	2	556.78809	1112.56890	5.92	45.48	Unambiguous	DNA topoisomera	1	3.73	0	1	P11387	1	0	0.00071099	347	MS2	18
	AEEVATFFAK					High					Koustav11.raw	2	556.78650	1112.56572	3.07	45.21	Unambiguous	DNA topoisomera	1	3.36	0	1	P11387	1	0	0.001050806	339	MS2	18
	AEEVATFFAK						High				Koustav12.raw	2	556.78815	1112.56902	6.03	45.12	Unambiguous	DNA topoisomera	1	3.22	0	1	P11387	1	0.000346	0.0154077	375	MS2	18
	AEEVATFFAK							High			Koustav9.raw	2	556.78760	1112.56792	5.04	44.74	Unambiguous	DNA topoisomera	1	3.14	0	1	P11387	1	0	0.000834045	367	MS2	18
	AEEVATFFAK								High		Koustav10.raw	2	556.78772	1112.56816	5.26	45.03	Unambiguous	DNA topoisomera	1	3.28	0	1	P11387	1	0.000241	0.001227148	391	MS2	18
	AGNEKEEGETADTVGccSLR						High			C16(Carbamidome	Koustav12.raw	3	728.31796	2182.93933	2.42	25.76	Unambiguous	DNA topoisomera	1	6.61	1	1	P11387	1	0	1.12309E-07	1904	MS2	76
	AGNEKEEGETADTVGccSLR							High		C16(Carbamidome	Koustav9.raw	3	728.31895	2182.94229	3.77	25.37	Unambiguous	DNA topoisomera	1	5.83	1	1	P11387	1	0	1.44317E-08	1915	MS2	76
	AGNEKEEGETADTVGccSLR								High	C16(Carbamidome	Koustav10.raw	3	728.31781	2182.93888	2.21	25.47	Unambiguous	DNA topoisomera	1	6.79	1	1	P11387	1	0	8.01009E-09	1887	MS2	76
	AVALYFIDK		High								Koustav14.raw	2	520.29620	1039.58513	2.72	51.35	Unambiguous	DNA topoisomera	4	2.40	0	1	P11387	1	0.003911	0.02372156	119	MS2	16
	AVALYFIDK			High							Koustav13.raw	2	520.29718	1039.58708	4.60	50.82	Unambiguous	DNA topoisomera	4	2.36	0	1	P11387	1	0.006325	0.06878856	102	MS2	16
	AVALYFIDK				High						Koustav16.raw	2	520.29706	1039.58684	4.37	50.15	Unambiguous	DNA topoisomera	4	2.57	0	1	P11387	1	0.003308	0.06540293	108	MS2	16
	AVALYFIDK						Medium				Koustav12.raw	2	520.29700	1039.58672	4.25	50.55	Unambiguous	DNA topoisomera	4	2.36	0	1	P11387	1	0.017113	0.184696	106	MS2	16
	AVALYFIDK							High			Koustav9.raw	2	520.29694	1039.58660	4.13	50.35	Unambiguous	DNA topoisomera	4	2.41	0	1	P11387	1	0.003641	0.03082608	90	MS2	16
	AVALYFIDK								High		Koustav10.raw	2	520.29651	1039.58574	3.31	50.49	Unambiguous	DNA topoisomera	4	2.61	0	1	P11387	1	0.007102	0.08381958	112	MS2	16
	cDFTQmSQYFK						High			C1(Carbamidomet	Koustav12.raw	2	735.80872	1470.61016	4.96	38.38	Unambiguous	DNA topoisomera	1	4.11	0	1	P11387	1	0	0.000880733	487	MS2	20
	cDFTQmSQYFK							High		C1(Carbamidomet	Koustav9.raw	2	735.80969	1470.61211	6.29	37.98	Unambiguous	DNA topoisomera	1	4.32	0	1	P11387	1	0	4.10143E-06	508	MS2	20
	cDFTQmSQYFK								High	C1(Carbamidomet	Koustav10.raw	2	735.80865	1470.61003	4.88	38.23	Unambiguous	DNA topoisomera	1	4.41	0	1	P11387	1	0.000133	0.000495193	466	MS2	20
	DEDDADYKPK		High								Koustav14.raw	2	598.26239	1195.51750	5.11	14.16	Unambiguous	DNA topoisomera	1	2.63	0	1	P11387	1	0.000999	0.002927681	357	MS2	18
	DEDDADYKPK						High				Koustav12.raw	3	399.17657	1195.51517	3.16	13.27	Unambiguous	DNA topoisomera	1	1.88	0	1	P11387	1	0.001481	0.03934259	325	MS2	36
	ELTAPDENIPAK		High								Koustav14.raw	2	649.33807	1297.66887	4.15	30.42	Unambiguous	DNA topoisomera	1	3.17	0	1	P11387	1	0.000185	2.72467E-05	317	MS2	22
	ELTAPDENIPAK			High							Koustav13.raw	2	649.33691	1297.66655	2.36	31.09	Unambiguous	DNA topoisomera	1	2.97	0	1	P11387	1	0.000969	0.01558234	349	MS2	22
	ELTAPDENIPAK						High				Koustav12.raw	2	649.33917	1297.67107	5.84	30.47	Unambiguous	DNA topoisomera	1	3.22	0	1	P11387	1	0	0.007897976	316	MS2	22
	ELTAPDENIPAK						High				Koustav12.raw	2	649.33942	1297.67156	6.22	31.06	Unambiguous	DNA topoisomera	1	3.20	0	1	P11387	1	0.000346	0.01424153	275	MS2	22
	ELTAPDENIPAK							Medium			Koustav9.raw	2	649.33942	1297.67156	6.22	30.07	Unambiguous	DNA topoisomera	1	2.87	0	1	P11387	1	0.03046	0.3362047	321	MS2	22
	ELTAPDENIPAK							High			Koustav9.raw	2	649.33984	1297.67241	6.87	30.57	Unambiguous	DNA topoisomera	1	3.19	0	1	P11387	1	0	5.0813E-05	294	MS2	22
	ELTAPDENIPAK								High		Koustav10.raw	2	649.33875	1297.67021	5.18	30.39	Unambiguous	DNA topoisomera	1	3.33	0	1	P11387	1	0.000292	0.001581439	321	MS2	22
	FAWAIDmADEDYEF						High			M7(Oxidation)	Koustav12.raw	2	869.85540	1738.70352	5.35	65.98	Unambiguous	DNA topoisomera	1	3.28	0	1	P11387	1	0.001481	0.04072538	768	MS2	26
	GPVFAPPYEPLPENVK			High							Koustav13.raw	2	877.46478	1753.92229	3.57	51.63	Unambiguous	DNA topoisomera	1	3.20	0	1	P11387	1	0.000136	0.002557263	347	MS2	30
	GPVFAPPYEPLPENVK						High				Koustav12.raw	2	877.46625	1753.92522	5.24	51.23	Unambiguous	DNA topoisomera	1	3.52	0	1	P11387	1	0	0.003314717	363	MS2	30
	GPVFAPPYEPLPENVK							High			Koustav9.raw	2	877.46621	1753.92515	5.20	51.23	Unambiguous	DNA topoisomera	1	3.43	0	1	P11387	1	0	0.000192006	339	MS2	30
	GPVFAPPYEPLPENVK								High		Koustav10.raw	2	877.46515	1753.92302	3.99	51.23	Unambiguous	DNA topoisomera	1	4.15	0	1	P11387	1	0	6.18329E-06	356	MS2	30
	HLQDLMEGLTAK						High				Koustav12.raw	2	678.35718	1355.70708	6.08	46.71	Unambiguous	DNA topoisomera	1	4.02	0	1	P11387	1	0	0.000788038	347	MS2	22
	HLQDLMEGLTAK						High				Koustav12.raw	3	452.57324	1355.70517	4.68	46.73	Unambiguous	DNA topoisomera	1	2.71	0	1	P11387	1	0	0.001519891	371	MS2	44
	HLQDLMEGLTAK							High			Koustav9.raw	2	678.35645	1355.70561	5.00	46.37	Unambiguous	DNA topoisomera	1	3.36	0	1	P11387	1	0	0.000191508	302	MS2	22
	ImPEDIIINcSK						High			M2(Oxidation); C1	Koustav12.raw	2	724.86353	1448.71977	5.06	43.76	Unambiguous	DNA topoisomera	1	3.63	0	1	P11387	1	0	0.002011497	366	MS2	22
	ImPEDIIINcSK						High			M2(Oxidation); C1	Koustav12.raw	2	724.86383	1448.72038	5.48	44.42	Unambiguous	DNA topoisomera	1	3.44	0	1	P11387	1	0	0.004865129	441	MS2	22
	ImPEDIIINcSK							High		M2(Oxidation); C1	Koustav9.raw	2	724.86366	1448.72005	5.25	43.46	Unambiguous	DNA topoisomera	1	3.21	0	1	P11387	1	0	0.000183114	396	MS2	22
	ImPEDIIINcSK								High	M2(Oxidation); C1	Koustav10.raw	2	724.86340	1448.71953	4.89	43.71	Unambiguous	DNA topoisomera	1	3.95	0	1	P11387	1	0.000241	0.001193007	382	MS2	22
	ITVAWcK		Medium							C6(Carbamidomet	Koustav14.raw	2	439.23508	877.46288	3.19	36.21	Unambiguous	DNA topoisomera	1	2.13	0	1	P11387	1	0.012911	0.2183865	314	MS2	12
	ITVAWcK			High						C6(Carbamidomet	Koustav13.raw	2	439.23547	877.46367	4.10	36.63	Unambiguous	DNA topoisomera	1	2.25	0	1	P11387	1	0.004033	0.0491492	292	MS2	12
	ITVAWcK					Medium				C6(Carbamidomet	Koustav11.raw	2	439.23590	877.46453	5.07	36.46	Unambiguous	DNA topoisomera	1	2.07	0	1	P11387	1	0.024567	0.2633476	293	MS2	12
	ITVAWcK							Medium		C6(Carbamidomet	Koustav9.raw	2	439.23437	877.46145	1.57	35.90	Unambiguous	DNA topoisomera	1	2.10	0	1	P11387	1	0.023194	0.2649287	290	MS2	12
	ITVAWcK								High	C6(Carbamidomet	Koustav10.raw	2	439.23410	877.46092	0.97	36.08	Unambiguous	DNA topoisomera	1	2.05	0	1	P11387	1	0.00845	0.1051064	323	MS2	12
	KLEEEEDGKLK						High				Koustav12.raw	3	439.90356	1317.69614	4.88	15.83	Unambiguous	DNA topoisomera	1	4.21	2	1	P11387	1	0.000905	0.02255671	375	MS2	40
	KLEEEEDGKLK							High			Koustav9.raw	3	439.90329	1317.69532	4.25	16.32	Unambiguous	DNA topoisomera	1	4.28	2	1	P11387	1	0	3.39818E-06	375	MS2	40
	KLEEEEDGKLK								High		Koustav10.raw	3	439.90268	1317.69349	2.86	16.27	Unambiguous	DNA topoisomera	1	4.16	2	1	P11387	1	0	0.000299388	396	MS2	40
	LEEQLmK		High							M6(Oxidation)	Koustav14.raw	2	453.73523	906.46318	3.35	19.45	Unambiguous	DNA topoisomera	1	2.64	0	1	P11387	1	0.001301	0.008049621	306	MS2	12
	LEEQLmK			High						M6(Oxidation)	Koustav13.raw	2	453.73544	906.46361	3.82	19.68	Unambiguous	DNA topoisomera	1	2.62	0	1	P11387	2	0.006325	0.06853069	317	MS2	12
	LEEQLmK						High			M6(Oxidation)	Koustav12.raw	2	453.73595	906.46462	4.94	18.84	Unambiguous	DNA topoisomera	1	2.72	0	1	P11387	1	0.003538	0.06848163	314	MS2	12
	LEEQLmK							High		M6(Oxidation)	Koustav9.raw	2	453.73574	906.46420	4.47	19.15	Unambiguous	DNA topoisomera	1	2.76	0	1	P11387	1	0.000579	0.01697035	308	MS2	12
	LEEQLmK								High	M6(Oxidation)	Koustav10.raw	2	453.73529	906.46330	3.48	19.28	Unambiguous	DNA topoisomera	1	2.99	0	1	P11387	1	0.001301	0.0209173	314	MS2	12
	LEEQLMK								High		Koustav10.raw	2	445.73816	890.46904	4.28	27.98	Unambiguous	DNA topoisomera	1	2.55	0	1	P11387	1	0.005805	0.06995433	356	MS2	12
	LEVQATDR						High				Koustav12.raw	2	466.24833	931.48938	5.37	19.17	Unambiguous	DNA topoisomera	1	2.68	0	1	P11387	1	0.002539	0.05462238	259	MS2	14
	LEVQATDR							Medium			Koustav9.raw	2	466.24185	931.47643	-8.54	19.39	Unambiguous	DNA topoisomera	1	2.36	0	1	P11387	1	0.046953	0.4080544	286	MS2	14
	LEVQATDREENK	Medium									Koustav15.raw	3	477.90857	1431.71115	2.57	17.72	Unambiguous	DNA topoisomera	1	1.79	1	1	P11387	1	0.012597	0.1565068	606	MS2	44
	LEVQATDREENK		Medium								Koustav14.raw	3	477.90921	1431.71308	3.91	17.92	Unambiguous	DNA topoisomera	1	2.00	1	1	P11387	1	0.032689	0.3000182	634	MS2	44
	LEVQATDREENK						High				Koustav12.raw	2	716.36157	1431.71587	5.86	17.40	Unambiguous	DNA topoisomera	1	3.42	1	1	P11387	1	0	0.002145393	553	MS2	22
	LEVQATDREENK							High			Koustav9.raw	3	477.90842	1431.71070	2.25	17.68	Unambiguous	DNA topoisomera	1	2.21	1	1	P11387	1	0.001121	0.02131889	607	MS2	44
	LEVQATDREENK							High			Koustav9.raw	2	716.36090	1431.71453	4.92	17.69	Unambiguous	DNA topoisomera	1	3.11	1	1	P11387	1	0	0.00015314	562	MS2	22
	LEVQATDREENK								High		Koustav10.raw	3	477.90851	1431.71097	2.44	17.66	Unambiguous	DNA topoisomera	1	2.11	1	1	P11387	1	0	0.000120766	601	MS2	44
	LEVQATDREENK								High		Koustav10.raw	2	716.36090	1431.71453	4.92	17.72	Unambiguous	DNA topoisomera	1	3.91	1	1	P11387	1	0	0.000195796	563	MS2	22
	LNTGILNK						High				Koustav12.raw	2	436.76584	872.52440	5.01	30.35	Unambiguous	DNA topoisomera	1	2.79	0	1	P11387	1	0.002279	0.05025782	326	MS2	14
	LNTGILNK							High			Koustav9.raw	2	436.76553	872.52379	4.31	30.11	Unambiguous	DNA topoisomera	1	2.67	0	1	P11387	1	0.002713	0.02780445	328	MS2	14
	LNTGILNK								High		Koustav10.raw	2	436.76532	872.52336	3.82	30.29	Unambiguous	DNA topoisomera	1	2.63	0	1	P11387	1	0.001301	0.02065668	330	MS2	14
	mLDHEYTTK						Medium			M1(Oxidation)	Koustav12.raw	3	385.17966	1153.52442	4.32	14.35	Unambiguous	DNA topoisomera	13	1.54	0	1	P11387	2	0.024386	0.2357938	393	MS2	32
	mLDHEYTTK						Medium			M1(Oxidation)	Koustav12.raw	2	577.26459	1153.52190	2.13	14.52	Unambiguous	DNA topoisomera	13	1.92	0	1	P11387	1	0.024022	0.233175	380	MS2	16
	mLDHEYTTK								High	M1(Oxidation)	Koustav10.raw	3	385.17996	1153.52533	5.11	15.05	Unambiguous	DNA topoisomera	13	1.83	0	1	P11387	1	0.000546	0.006410636	431	MS2	32
	MLDHEYTTK								High		Koustav10.raw	3	379.84818	1137.52997	4.79	19.20	Unambiguous	DNA topoisomera	13	1.47	0	1	P11387	1	0.000292	0.004427471	436	MS2	32
	NIITNLSK				Medium						Koustav16.raw	2	451.77158	902.53588	5.85	36.95	Unambiguous	DNA topoisomera	1	2.12	0	1	P11387	1	0.03286	0.3527897	243	MS2	14
	NIITNLSK					High					Koustav11.raw	2	451.77121	902.53514	5.04	37.21	Unambiguous	DNA topoisomera	1	2.35	0	1	P11387	1	0	0.001455678	246	MS2	14
	NIITNLSK						High				Koustav12.raw	2	451.77151	902.53575	5.72	37.13	Unambiguous	DNA topoisomera	1	1.80	0	1	P11387	1	0.001481	0.0410709	232	MS2	14
	NIITNLSK								High		Koustav10.raw	2	451.77139	902.53551	5.45	36.93	Unambiguous	DNA topoisomera	1	1.83	0	1	P11387	1	0.001242	0.01867165	229	MS2	14
	NLQLFmENK					High				M6(Oxidation)	Koustav11.raw	2	576.79266	1152.57805	5.40	41.45	Unambiguous	DNA topoisomera	4	3.13	0	1	P11387	1	0.00067	0.008325797	419	MS2	16
	NLQLFmENK						High			M6(Oxidation)	Koustav12.raw	2	576.79291	1152.57854	5.82	41.30	Unambiguous	DNA topoisomera	4	3.23	0	1	P11387	1	0.000905	0.02847901	400	MS2	16
	NLQLFmENK							High		M6(Oxidation)	Koustav9.raw	2	576.79321	1152.57915	6.35	40.96	Unambiguous	DNA topoisomera	4	3.11	0	1	P11387	1	0.000304	0.000834045	390	MS2	16
	NLQLFmENK								High	M6(Oxidation)	Koustav10.raw	2	576.79248	1152.57768	5.08	41.05	Unambiguous	DNA topoisomera	4	3.23	0	1	P11387	1	0.000292	0.003528611	376	MS2	16
	NLQLFMENK					High					Koustav11.raw	2	568.79370	1136.58013	2.83	47.32	Unambiguous	DNA topoisomera	4	2.63	0	1	P11387	1	0.009703	0.1139736	348	MS2	16
	NLQLFMENK						High				Koustav12.raw	2	568.79486	1136.58245	4.87	47.24	Unambiguous	DNA topoisomera	4	3.31	0	1	P11387	1	0.000346	0.01236356	269	MS2	16
	NLQLFMENK							High			Koustav9.raw	2	568.79382	1136.58037	3.04	47.09	Unambiguous	DNA topoisomera	4	1.87	0	1	P11387	3	0.002468	0.02780445	349	MS2	16
	NLQLFmENKQPEDDLFDR						High			M6(Oxidation)	Koustav12.raw	3	756.69537	2268.07157	5.00	53.36	Unambiguous	DNA topoisomera	1	3.31	1	1	P11387	1	0	0.00024374	1461	MS2	68
	NLQLFmENKQPEDDLFDR								High	M6(Oxidation)	Koustav10.raw	3	756.69611	2268.07376	5.96	53.36	Unambiguous	DNA topoisomera	1	3.67	1	1	P11387	2	0	2.40683E-05	1418	MS2	68
	QIALGTSK						Medium				Koustav12.raw	2	409.24405	817.48082	3.66	21.81	Unambiguous	DNA topoisomera	1	2.02	0	1	P11387	1	0.018109	0.190603	187	MS2	14
	QPEDDLFDR		High								Koustav14.raw	2	567.75934	1134.51140	4.54	36.52	Unambiguous	DNA topoisomera	1	2.34	0	1	P11387	1	0.001072	0.002927681	369	MS2	16
	QPEDDLFDR					Medium					Koustav11.raw	2	567.75952	1134.51177	4.86	36.67	Unambiguous	DNA topoisomera	1	2.47	0	1	P11387	1	0.014289	0.1361433	405	MS2	16
	QPEDDLFDR						Medium				Koustav12.raw	2	567.75958	1134.51189	4.97	36.84	Unambiguous	DNA topoisomera	1	1.97	0	1	P11387	1	0.014145	0.1622454	368	MS2	16
	QPEDDLFDR							High			Koustav9.raw	2	567.75934	1134.51140	4.54	36.32	Unambiguous	DNA topoisomera	1	2.08	0	1	P11387	1	0.002713	0.02780445	367	MS2	16
	QPEDDLFDR								High		Koustav10.raw	2	567.75952	1134.51177	4.86	36.51	Unambiguous	DNA topoisomera	1	1.98	0	1	P11387	1	0.001301	0.0222	399	MS2	16
	SMMNLQTK						High				Koustav12.raw	2	476.73523	952.46318	4.28	28.98	Unambiguous	DNA topoisomera	1	2.82	0	1	P11387	1	0.000346	0.01495418	243	MS2	14
	SMMNLQTK							High			Koustav9.raw	2	476.73561	952.46394	5.08	28.57	Unambiguous	DNA topoisomera	1	2.69	0	1	P11387	1	0.000304	0.001817355	293	MS2	14
	TYNASITLQQQLK		High								Koustav14.raw	2	754.41150	1507.81572	2.79	40.22	Unambiguous	DNA topoisomera	1	4.26	0	1	P11387	1	0.000185	5.09368E-05	278	MS2	24
	TYNASITLQQQLK						High				Koustav12.raw	2	754.41370	1507.82012	5.70	40.10	Unambiguous	DNA topoisomera	1	5.08	0	1	P11387	1	0	0.006841181	254	MS2	24
	YImLNPSSR						High			M3(Oxidation)	Koustav12.raw	2	548.77893	1096.55058	4.55	30.67	Unambiguous	DNA topoisomera	1	2.59	0	1	P11387	1	0.000346	0.01206872	396	MS2	16
	YImLNPSSR							High		M3(Oxidation)	Koustav9.raw	2	548.77923	1096.55118	5.09	30.36	Unambiguous	DNA topoisomera	1	2.72	0	1	P11387	1	0	0.000143792	306	MS2	16
	YImLNPSSR								High	M3(Oxidation)	Koustav10.raw	2	548.77917	1096.55107	4.99	30.58	Unambiguous	DNA topoisomera	1	2.89	0	1	P11387	1	0.000133	0.000539702	287	MS2	16
	YIMLNPSSR						High				Koustav12.raw	2	540.77985	1080.55242	1.61	36.41	Unambiguous	DNA topoisomera	1	2.76	0	1	P11387	1	0	0.001784177	319	MS2	16

P11388	DNA topoisomerase 2-alpha OS=Homo sapiens GN=TOP2A PE=1 SV=3 - **[TOP2A**_HUMAN]	53.49	11	72	88	235	1531	174.3																					
	Sequence	A3	B3	C3	D3	E3	F3	G3	H3	Modifications	Spectrum File	Charge	m/z [Da]	MH+ [Da]	ΔM [ppm]	RT [min]	PSM Ambiguity	rotein Description	# Proteins	XCorr	# Missed Cleavage	# Protein Groups	tein Group Accessi	earch Engine Ran	q-Value	PEP	Peptides Matched	MS Order	Total Ions
	AGEmELKPFNGEDYTcITFQPDLSK								High	M4(Oxidation); C1	Koustav10.raw	3	969.45270	2906.34354	7.27	53.99	Unambiguous	DNA topoisomera	4	5.68	0	1	P11388	1	0	0.000151238	3403	MS2	96
	AYDIAGSTK			Medium							Koustav13.raw	2	463.23788	925.46849	6.40	22.00	Unambiguous	DNA topoisomera	4	2.89	0	1	P11388	1	0.021232	0.2513607	481	MS2	16
	AYDIAGSTK								High		Koustav10.raw	2	463.23724	925.46721	5.01	21.08	Unambiguous	DNA topoisomera	4	2.68	0	1	P11388	1	0.007993	0.100893	451	MS2	16
	AYDIAGSTK								High		Koustav10.raw	2	463.23697	925.46666	4.42	21.64	Unambiguous	DNA topoisomera	4	2.90	0	1	P11388	1	0.005412	0.06749795	403	MS2	16
	DFFELR								High		Koustav10.raw	2	413.70993	826.41258	3.83	49.95	Unambiguous	DNA topoisomera	4	1.36	0	1	P11388	1	0.009419	0.1135237	340	MS2	10
	DFFELR								Medium		Koustav10.raw	2	413.70996	826.41265	3.90	50.49	Unambiguous	DNA topoisomera	4	1.14	0	1	P11388	1	0.020446	0.2452351	388	MS2	10
	DIVALMVR								High		Koustav10.raw	2	458.76993	916.53258	4.44	50.55	Unambiguous	DNA topoisomera	4	3.04	0	1	P11388	1	0.000292	0.003979569	209	MS2	14
	DKLDETGNSLK								High		Koustav10.raw	3	407.21197	1219.62135	3.95	20.29	Unambiguous	DNA topoisomera	4	3.24	1	1	P11388	1	0.00858	0.1058416	389	MS2	40
	DKYGVFPLR				Medium						Koustav16.raw	3	365.53906	1094.60263	3.00	42.34	Unambiguous	DNA topoisomera	4	2.54	1	1	P11388	1	0.027918	0.3045012	257	MS2	32
	DKYGVFPLR								Medium		Koustav10.raw	3	365.53976	1094.60474	4.92	42.16	Unambiguous	DNA topoisomera	4	2.54	1	1	P11388	1	0.021891	0.261396	259	MS2	32
	DKYGVFPLR								High		Koustav10.raw	2	547.80518	1094.60307	3.40	42.21	Unambiguous	DNA topoisomera	4	2.85	1	1	P11388	1	0.001963	0.0308754	260	MS2	16
	DKYGVFPLR								High		Koustav10.raw	3	365.53955	1094.60410	4.34	42.70	Unambiguous	DNA topoisomera	4	2.76	1	1	P11388	1	0.003985	0.05403274	250	MS2	32
	DPALNSGVSQKPDPAK	High									Koustav15.raw	3	541.95203	1623.84153	4.78	22.34	Unambiguous	DNA topoisomera	4	3.94	0	1	P11388	1	0	1.70166E-06	486	MS2	60
	DPALNSGVSQKPDPAK		High								Koustav14.raw	3	541.95166	1623.84043	4.11	22.31	Unambiguous	DNA topoisomera	4	3.54	0	1	P11388	1	0	2.72467E-05	498	MS2	60
	DPALNSGVSQKPDPAK			High							Koustav13.raw	3	541.95056	1623.83713	2.08	22.79	Unambiguous	DNA topoisomera	4	3.49	0	1	P11388	1	0	0.0002348	522	MS2	60

DPALNSGVSQKPDPAK								High		Koustav10.raw	3	541.95135	1623.83951	3.54	22.18	Unambiguous	DNA topoisomera	4	3.65	0	1	P11388	1	0	0.000163673	503	MS2	60
DPALNSGVSQKPDPAK								High		Koustav10.raw	2	812.42426	1623.84123	4.60	22.29	Unambiguous	DNA topoisomera	4	4.30	0	1	P11388	1	0	0.000116648	341	MS2	30
EDLATFIEELEAVEAK								High		Koustav10.raw	3	602.97485	1806.91001	5.07	72.84	Unambiguous	DNA topoisomera	4	4.86	0	1	P11388	1	0	1.87598E-05	605	MS2	60
EIVNNIR								Medium		Koustav10.raw	2	429.24744	857.48760	4.22	23.86	Unambiguous	DNA topoisomera	4	1.89	0	1	P11388	1	0.019623	0.2386315	262	MS2	12
EKQDEQVGLPGK								High		Koustav10.raw	3	443.23523	1327.69114	4.40	22.36	Unambiguous	DNA topoisomera	4	2.67	1	1	P11388	1	0.007376	0.09323917	323	MS2	44
EKQDEQVGLPGK								High		Koustav10.raw	2	664.34930	1327.69133	4.55	22.52	Unambiguous	DNA topoisomera	4	4.47	1	1	P11388	1	0.000241	0.000758505	272	MS2	22
EKQDEQVGLPGK								High		Koustav10.raw	3	443.23480	1327.68985	3.44	22.88	Unambiguous	DNA topoisomera	4	2.98	1	1	P11388	1	0	0.00029208	360	MS2	44
ELILFSNSDNER					High					Koustav11.raw	2	718.85852	1436.70976	5.64	48.42	Unambiguous	Isoform Beta-1 of	7	4.19	0	2	Q02880-2;P11388	1	0	4.9446E-12	485	MS2	22
ELILFSNSDNER								High		Koustav10.raw	2	718.85883	1436.71037	6.06	48.16	Unambiguous	Isoform Beta-1 of	7	4.08	0	2	Q02880-2;P11388	1	0	1.31308E-05	445	MS2	22
ELILFSNSDNER								High		Koustav10.raw	3	479.57410	1436.70774	4.23	48.30	Unambiguous	Isoform Beta-1 of	7	3.47	0	2	Q02880-2;P11388	1	0	0.000306014	549	MS2	44
ENMTLQPK								High		Koustav10.raw	2	480.74655	960.48583	4.04	23.32	Selected	Isoform Beta-1 of	7	1.74	0	2	Q02880-2;P11388	1	0.003673	0.04522011	248	MS2	14
EQELDTLK						Medium				Koustav12.raw	2	488.25623	975.50517	5.96	26.45	Selected	DNA topoisomera	4	1.87	0	1	P11388	2	0.023422	0.2287827	294	MS2	14
EQELDTLK								High		Koustav10.raw	2	488.25546	975.50365	4.40	26.11	Unambiguous	DNA topoisomera	4	1.70	0	1	P11388	1	0.002554	0.03513746	294	MS2	14
EQELDTLKR								High		Koustav10.raw	2	566.30591	1131.60454	3.59	22.90	Unambiguous	DNA topoisomera	4	2.19	1	1	P11388	1	0.001301	0.01922252	297	MS2	16
EQVLEPmLNGTEK								High	M7(Oxidation)	Koustav10.raw	2	752.37311	1503.73894	1.94	33.72	Unambiguous	DNA topoisomera	4	2.72	0	1	P11388	1	0.000133	0.000411673	543	MS2	24
EQVLEPMLNGTEK								High		Koustav10.raw	2	744.37817	1487.74907	5.36	41.29	Unambiguous	DNA topoisomera	4	3.50	0	1	P11388	1	0	3.13526E-05	408	MS2	24
EVTFVPGLYK	Medium									Koustav15.raw	2	576.81995	1152.63262	2.29	48.52	Unambiguous	Isoform Beta-1 of	8	1.93	0	2	Q02880-2;P11388	1	0.025379	0.2842081	184	MS2	18
EVTFVPGLYK			Medium							Koustav13.raw	2	576.81860	1152.62993	-0.04	49.04	Unambiguous	Isoform Beta-1 of	8	1.96	0	2	Q02880-2;P11388	1	0.031775	0.3518483	177	MS2	18
EVTFVPGLYK								Medium		Koustav10.raw	2	576.81824	1152.62920	-0.68	49.04	Unambiguous	Isoform Beta-1 of	8	2.12	0	2	Q02880-2;P11388	1	0.030775	0.3500853	191	MS2	18
EWLLGmLGAESAK								High	M6(Oxidation)	Koustav10.raw	2	710.86499	1420.72270	6.01	57.18	Unambiguous	DNA topoisomera	4	4.12	0	1	P11388	1	0	4.28488E-06	299	MS2	24
EWLLGMLGAESAK								High		Koustav10.raw	2	702.86761	1404.72795	6.19	66.48	Unambiguous	DNA topoisomera	4	4.35	0	1	P11388	1	0	5.74705E-06	260	MS2	24
EWLLGMLGAESAK								Medium		Koustav10.raw	3	468.91370	1404.72654	5.19	66.56	Unambiguous	DNA topoisomera	4	2.55	0	1	P11388	1	0.013078	0.1594313	366	MS2	48
EWLTNFmEDR								High	M7(Oxidation)	Koustav10.raw	2	678.80200	1356.59673	5.74	48.24	Unambiguous	Isoform Beta-1 of	7	3.27	0	2	Q02880-2;P11388	1	0	0.000149408	514	MS2	18
EWLTNFMEDR								High		Koustav10.raw	2	670.80487	1340.60246	6.29	59.36	Unambiguous	Isoform Beta-1 of	7	2.95	0	2	Q02880-2;P11388	1	0.000241	0.000912374	487	MS2	18
EYFADmK								High	M6(Oxidation)	Koustav10.raw	2	460.19913	919.39098	4.72	22.36	Unambiguous	DNA topoisomera	4	1.80	0	1	P11388	1	0.007102	0.08348802	157	MS2	12
EYFADMK								Medium		Koustav10.raw	2	452.20010	903.39293	1.34	32.81	Unambiguous	DNA topoisomera	4	1.65	0	1	P11388	1	0.013046	0.15835	295	MS2	12
FLEEFITPIVK					High					Koustav11.raw	2	668.38556	1335.76384	5.92	62.72	Unambiguous	DNA topoisomera	4	3.17	0	1	P11388	1	0.00067	0.00555292	155	MS2	20
FLEEFITPIVK						High				Koustav12.raw	2	668.38800	1335.76872	9.58	61.82	Unambiguous	DNA topoisomera	4	3.81	0	1	P11388	1	0.000905	0.01775574	119	MS2	20
FLEEFITPIVK							High			Koustav9.raw	2	668.38623	1335.76518	6.93	61.63	Unambiguous	DNA topoisomera	4	3.38	0	1	P11388	1	0.004283	0.04189776	150	MS2	20
FLEEFITPIVK								High		Koustav10.raw	2	668.38617	1335.76506	6.84	62.44	Unambiguous	DNA topoisomera	4	3.78	0	1	P11388	1	0.001242	0.01897861	145	MS2	20
FLEEFITPIVK								High		Koustav10.raw	2	668.38574	1335.76421	6.20	62.96	Unambiguous	DNA topoisomera	4	3.68	0	1	P11388	1	0.000546	0.006949006	136	MS2	20
FLYDDNQR							Medium			Koustav9.raw	2	535.75159	1070.49590	5.34	29.22	Unambiguous	Isoform Beta-1 of	7	1.93	0	2	Q02880-2;P11388	1	0.044705	0.3748599	525	MS2	14
FLYDDNQR								High		Koustav10.raw	2	535.75067	1070.49406	3.63	29.17	Unambiguous	Isoform Beta-1 of	7	2.26	0	2	Q02880-2;P11388	1	0.000862	0.01301193	506	MS2	14
FTVETASR				High						Koustav16.raw	2	455.73688	910.46648	3.92	24.07	Unambiguous	DNA topoisomera	4	2.64	0	1	P11388	1	0.000529	0.008052454	264	MS2	14
FTVETASR					High					Koustav11.raw	2	455.73700	910.46672	4.19	23.41	Unambiguous	DNA topoisomera	4	2.05	0	1	P11388	1	0.00317	0.02240768	391	MS2	14
FTVETASR							High			Koustav9.raw	2	455.73715	910.46703	4.52	23.71	Unambiguous	DNA topoisomera	4	2.51	0	1	P11388	1	0.002468	0.02780445	391	MS2	14
FTVETASR								High		Koustav10.raw	2	455.73630	910.46532	2.64	23.79	Unambiguous	DNA topoisomera	4	2.57	0	1	P11388	1	0.001522	0.02385445	281	MS2	14
GESDDFHmDFDSAVAPR								High	M8(Oxidation)	Koustav10.raw	3	637.93597	1911.79337	6.22	38.75	Unambiguous	DNA topoisomera	4	3.85	0	1	P11388	1	0	5.26069E-05	1309	MS2	64
GESDDFHMDFDSAVAPR								High		Koustav10.raw	3	632.60358	1895.79618	5.07	46.48	Unambiguous	DNA topoisomera	4	4.77	0	1	P11388	1	0	8.42701E-06	1305	MS2	64
GFQQISFVNSIATSK			High							Koustav13.raw	2	813.93195	1626.85661	4.89	52.90	Unambiguous	DNA topoisomera	4	4.97	0	1	P11388	1	0	8.56059E-07	262	MS2	28
GFQQISFVNSIATSK			High							Koustav13.raw	3	542.95746	1626.85782	5.63	52.97	Unambiguous	DNA topoisomera	4	4.60	0	1	P11388	1	0	2.68545E-07	367	MS2	56
GFQQISFVNSIATSK					High					Koustav11.raw	2	813.93372	1626.86016	7.06	53.11	Unambiguous	DNA topoisomera	4	2.87	0	1	P11388	1	0.007461	0.08606581	309	MS2	28
GFQQISFVNSIATSK								High		Koustav10.raw	2	813.93219	1626.85710	5.19	52.62	Unambiguous	DNA topoisomera	4	5.01	0	1	P11388	1	0	1.74223E-05	274	MS2	28
GFQQISFVNSIATSK								High		Koustav10.raw	3	542.95785	1626.85898	6.34	52.63	Unambiguous	DNA topoisomera	4	4.77	0	1	P11388	1	0	7.71785E-07	366	MS2	56
GIPVVEHK								Medium		Koustav10.raw	2	439.76016	878.51305	4.07	22.04	Unambiguous	Isoform Beta-1 of	8	1.56	0	2	Q02880-2;P11388	1	0.01397	0.1744991	156	MS2	14
GSVPLSsSPPATHFPDETEITNPVPK								High	S7(Phospho)	Koustav10.raw	3	928.77671	2784.31559	0.96	48.81	Unambiguous	DNA topoisomera	4	4.06	0	1	P11388	2	0	0.000254004	2408	MS2	148
GSVPLSSsPPATHFPDETEITNPVPK								High	S8(Phospho)	Koustav10.raw	3	928.77671	2784.31559	0.96	48.81	Unambiguous	DNA topoisomera	4	4.09	0	1	P11388	1	0	8.67294E-05	2408	MS2	148
GSVPLSSSPPATHFPDETEITNPVPK		High								Koustav14.raw	3	902.12372	2704.35660	3.71	47.93	Unambiguous	DNA topoisomera	4	3.39	0	1	P11388	1	0.000185	2.72467E-05	1086	MS2	100
GSVPLSSSPPATHFPDETEITNPVPK			High							Koustav13.raw	3	902.12372	2704.35660	3.71	47.22	Unambiguous	DNA topoisomera	4	3.43	0	1	P11388	1	0	0.000112009	1105	MS2	100
GSVPLSSSPPATHFPDETEITNPVPK								High		Koustav10.raw	3	902.12439	2704.35862	4.45	46.88	Unambiguous	DNA topoisomera	4	3.62	0	1	P11388	1	0	8.79121E-05	1032	MS2	100
GYDSDPVK								High		Koustav10.raw	2	440.70774	880.40820	3.96	17.76	Unambiguous	DNA topoisomera	4	2.37	0	1	P11388	1	0.001242	0.01823356	211	MS2	14
HVDYVADQIVTK			High							Koustav13.raw	2	694.36566	1387.72405	1.73	32.75	Unambiguous	DNA topoisomera	4	4.62	0	1	P11388	1	0	9.64205E-07	304	MS2	22
HVDYVADQIVTK								High		Koustav10.raw	3	463.24509	1387.72071	-0.68	32.17	Unambiguous	DNA topoisomera	4	4.27	0	1	P11388	1	0	8.99966E-05	391	MS2	44
HVDYVADQIVTK								High		Koustav10.raw	2	694.36475	1387.72222	0.41	32.19	Unambiguous	DNA topoisomera	4	5.00	0	1	P11388	1	0	4.50089E-06	268	MS2	22
IFDEILVNAADNK	High									Koustav15.raw	3	487.92691	1461.76618	5.28	51.01	Unambiguous	Isoform Beta-1 of	8	3.72	0	2	Q02880-2;P11388	1	0	1.16842E-08	420	MS2	48
IFDEILVNAADNK	High									Koustav15.raw	2	731.38715	1461.76702	5.85	51.03	Unambiguous	Isoform Beta-1 of	8	4.13	0	2	Q02880-2;P11388	1	0	3.67403E-09	349	MS2	24
IFDEILVNAADNK			High							Koustav13.raw	2	731.38593	1461.76457	4.18	51.37	Unambiguous	Isoform Beta-1 of	8	4.29	0	2	Q02880-2;P11388	1	0	0.00020797	360	MS2	24
IFDEILVNAADNK			High							Koustav13.raw	3	487.92599	1461.76343	3.40	51.42	Unambiguous	Isoform Beta-1 of	8	3.85	0	2	Q02880-2;P11388	1	0	1.08319E-07	437	MS2	48
IFDEILVNAADNK					High					Koustav11.raw	2	731.38733	1461.76738	6.10	51.38	Unambiguous	Isoform Beta-1 of	8	4.19	0	2	Q02880-2;P11388	1	0	9.90688E-13	352	MS2	24
IFDEILVNAADNK								High		Koustav10.raw	3	487.92639	1461.76462	4.21	51.03	Unambiguous	Isoform Beta-1 of	8	4.23	0	2	Q02880-2;P11388	1	0	2.30399E-08	424	MS2	48
IFDEILVNAADNK								High		Koustav10.raw	2	731.38690	1461.76653	5.52	51.12	Unambiguous	Isoform Beta-1 of	8	4.50	0	2	Q02880-2;P11388	1	0.000292	0.002716907	341	MS2	24
IFDEILVNAADNK								High		Koustav10.raw	3	487.92648	1461.76490	4.40	51.57	Unambiguous	Isoform Beta-1 of	8	3.88	0	2	Q02880-2;P11388	1	0	5.45225E-06	412	MS2	48
IIIENKPK			Medium							Koustav13.raw	3	318.87247	954.60285	4.77	19.45	Unambiguous	DNA topoisomera	4	2.06	0	1	P11388	1	0.020966	0.2489102	62	MS2	28
IIIENKPK								High		Koustav10.raw	3	318.87238	954.60257	4.49	19.01	Unambiguous	DNA topoisomera	4	2.43	0	1	P11388	1	0.003673	0.04643966	61	MS2	28
IIIENKPK								High		Koustav10.raw	2	477.80466	954.60204	3.92	19.05	Unambiguous	DNA topoisomera	4	2.42	0	1	P11388	1	0.000292	0.002116735	46	MS2	14
IKNENTEGsPQEDGVELEGLK								High	S9(Phospho)	Koustav10.raw	3	789.36914	2366.09287	7.12	38.21	Unambiguous	DNA topoisomera	4	5.64	1	1	P11388	1	0	8.08465E-06	2149	MS2	118
IKNENTEGSPQEDGVELEGLK								High		Koustav10.raw	3	762.71301	2286.12448	6.47	35.44	Unambiguous	DNA topoisomera	4	5.93	1	1	P11388	1	0	8.37053E-08	1227	MS2	80
IKNENTEGSPQEDGVELEGLK								High		Koustav10.raw	3	762.71228	2286.12229	5.51	36.42	Unambiguous	DNA topoisomera	4	5.58	1	1	P11388	1	0	7.51145E-08	1267	MS2	80
IKNENTEGSPQEDGVELEGLK								High		Koustav10.raw	3	762.71301	2286.12448	6.47	36.93	Unambiguous	DNA topoisomera	4	5.45	1	1	P11388	1	0	2.83287E-07	1219	MS2	80
ImImTDQDQDGSHIK						High			M2(Oxidation); M	Koustav12.raw	3	588.60248	1763.79288	-0.61	25.59	Unambiguous	Isoform Beta-1 of	7	5.12	0	2	Q02880-2;P11388	1	0	4.9302E-05	1100	MS2	56
ImImTDQDQDGSHIK								High	M2(Oxidation); M	Koustav10.raw	3	588.60321	1763.79508	0.64	25.13	Unambiguous	Isoform Beta-1 of	7	4.90	0	2	Q02880-2;P11388	1	0	2.53894E-08	1098	MS2	56
ImImTDQDQDGSHIK								High	M2(Oxidation); M	Koustav10.raw	2	882.40228	1763.79729	1.89	25.37	Unambiguous	Isoform Beta-1 of	7	5.10	0	2	Q02880-2;P11388	1	0	4.38293E-06	958	MS2	28
ImImTDQDQDGSHIK								High	M2(Oxidation); M	Koustav10.raw	3	588.60571	1763.80259	4.90	25.65	Unambiguous	Isoform Beta-1 of	7	5.44	0	2	Q02880-2;P11388	1	0	2.25142E-08	1139	MS2	56
ImIMTDQDQDGSHIK								High	M2(Oxidation)	Koustav10.raw	3	583.27350	1747.80594	3.95	30.60	Unambiguous	Isoform Beta-1 of	7	4.71	0	2	Q02880-2;P11388	1	0	8.67161E-08	1072	MS2	56
IMIMTDQDQDGSHIK								High		Koustav10.raw	3	577.93878	1731.80179	-1.35	33.58	Unambiguous	Isoform Beta-1 of	7	2.85	0	2	Q02880-2;P11388	1	0	4.70463E-07	1013	MS2	56
IPNFDVR								Medium		Koustav10.raw	2	430.73676	860.46623	4.31	37.44	Unambiguous	DNA topoisomera	4	1.98	0	1	P11388	1	0.011491	0.1388792	356	MS2	12
ITIEmK								Medium	M5(Oxidation)	Koustav10.raw	2	375.70844	750.40959	3.93	19.23	Unambiguous	DNA topoisomera	4	1.82	0	1	P11388	1	0.035911	0.4022122	200	MS2	10
ITIEmK								Medium	M5(Oxidation)	Koustav10.raw	2	375.70856	750.40984	4.25	19.75	Unambiguous	DNA topoisomera	4	1.87	0	1	P11388	1	0.020506	0.2473606	201	MS2	10
ITIEMK								Medium		Koustav10.raw	2	367.71027	734.41326	2.08	31.26	Unambiguous	DNA topoisomera	4	1.69	0	1	P11388	1	0.029617	0.3425706	159	MS2	10
KEWLLGmLGAESAK								High	M7(Oxidation)	Koustav10.raw	3	516.94196	1548.81131	1.41	49.29	Unambiguous	DNA topoisomera	4	4.37	1	1	P11388	1	0	1.36837E-06	408	MS2	52
KEWLLGMLGAESAK								High		Koustav10.raw	3	511.61209	1532.82172	4.89	59.32	Unambiguous	DNA topoisomera	4	3.20	1	1	P11388	1	0	3.3772E-07	339	MS2	52
KEWLTNFmEDR						High			M8(Oxidation)	Koustav12.raw	3	495.56912	1484.69281	5.99	42.12	Unambiguous	Isoform Beta-1 of	7	3.58	1	2	Q02880-2;P11388	1	0	0.002155733	670	MS2	40
KEWLTNFmEDR								High	M8(Oxidation)	Koustav10.raw	3	495.56863	1484.69135	5.01	41.61	Unambiguous	Isoform Beta-1 of	7	4.78	1	2	Q02880-2;P11388	1	0	4.42661E-05	660	MS2	40
KEWLTNFmEDR								High	M8(Oxidation)	Koustav10.raw	3	495.56885	1484.69199	5.44	42.13	Unambiguous	Isoform Beta-1 of	7	3.65	1	2	Q02880-2;P11388	1	0	5.58318E-05	649	MS2	40
KEWLTNFMEDR								High		Koustav10.raw	3	490.23715	1468.69690	5.38	51.75	Unambiguous	Isoform Beta-1 of	7	4.24	1	2	Q02880-2;P11388	1	0	3.22269E-06	660	MS2	40
KEWLTNFMEDR								High		Koustav10.raw	2	734.85291	1468.69853	6.49	51.88	Unambiguous	Isoform Beta-1 of	7	3.96	1	2	Q02880-2;P11388	1	0.000133	0.000525283	631	MS2	20
KNYEDEDSLK								High		Koustav10.raw	3	414.19656	1240.57514	4.76	18.30	Unambiguous	DNA topoisomera	4	4.10	1	1	P11388	1	0.000133	0.0005326	482	MS2	36
KNYEDEDSLK								High		Koustav10.raw	2	620.79138	1240.57549	5.04	18.31	Unambiguous	DNA topoisomera	4	3.34	1	1	P11388	1	0.000783	0.01071164	412	MS2	18
KQTTLAFKPIK		High								Koustav14.raw	3	425.60022	1274.78611	2.33	31.18	Unambiguous	DNA topoisomera	4	3.43	1	1	P11388	1	0.002755	0.02330643	28	MS2	40
KQTTLAFKPIK			High							Koustav13.raw	3	425.60107	1274.78867	4.34	31.62	Unambiguous	DNA topoisomera	4	3.09	1	1	P11388	1	0	0.000442222	28	MS2	40
KQTTLAFKPIK								High		Koustav10.raw	3	425.60092	1274.78821	3.98	31.10	Unambiguous	DNA topoisomera	4	4.24	1	1	P11388	1	0	0.000198242	28	MS2	40
KQTTLAFKPIK								High		Koustav10.raw	4	319.45264	1274.78872	4.37	31.11	Unambiguous	DNA topoisomera	4	3.10	1	1	P11388	1	0.000783	0.009723076	28	MS2	60
KSPSDLWK								High		Koustav10.raw	3	320.84467	960.51944	4.68	29.74	Unambiguous	Isoform Beta-1 of	7	3.19	1	3	Q02880-2;P11388	1	0.000783	0.009451982	310	MS2	28
KSPSDLWK								High		Koustav10.raw	2	480.76431	960.52134	6.65	29.82	Unambiguous	Isoform Beta-1 of	7	2.12	1	3	Q02880-2;P11388	1	0.009766	0.1167785	240	MS2	14
KVLFTcFK								High	C6(Carbamidomet	Koustav10.raw	2	521.79382	1042.58037	4.72	39.20	Unambiguous	Isoform Beta-1 of	7	2.50	1	2	Q02880-2;P11388	1	0.007376	0.09104866	222	MS2	14
KYDTVLDILR								High		Koustav10.raw	2	618.35580	1235.70432	3.93	54.09	Unambiguous	DNA topoisomera	4	3.67	1	1	P11388	1	0.000133	0.000444351	169	MS2	18
KYDTVLDILR								High		Koustav10.raw	3	412.57318	1235.70499	4.47	54.10	Unambiguous	DNA topoisomera	4	3.48	1	1	P11388	1	0.000133	0.00061743	172	MS2	36
LcNIFSTK			High						C2(Carbamidomet	Koustav13.raw	2	491.75681	982.50633	3.73	40.43	Unambiguous	Isoform Beta-1 of	7	2.90	0	2	Q02880-2;P11388	1	0.000136	0.002536322	389	MS2	14
LcNIFSTK						High			C2(Carbamidomet	Koustav12.raw	2	491.75748	982.50768	5.10	40.22	Unambiguous	Isoform Beta-1 of	7	2.44	0	2	Q02880-2;P11388	1	0	0.008834921	294	MS2	14
LcNIFSTK							Medium		C2(Carbamidomet	Koustav9.raw	2	491.75742	982.50755	4.98	39.72	Unambiguous	Isoform Beta-1 of	7	2.23	0	2	Q02880-2;P11388	1	0.025618	0.2857246	275	MS2	14
LcNIFSTK								High	C2(Carbamidomet	Koustav10.raw	2	491.75681	982.50633	3.73	39.73	Unambiguous	Isoform Beta-1 of	7	2.61	0	2	Q02880-2;P11388	1	0.006061	0.07228922	386	MS2	14
LDETGNSLK								High		Koustav10.raw	2	488.75299	976.49870	4.19	18.58	Unambiguous	DNA topoisomera	4	2.93	0	1	P11388	1	0.000133	0.000754587	283	MS2	16
LLFPPK								Medium		Koustav10.raw	2	357.73276	714.45824	4.66	40.98	Unambiguous	DNA topoisomera	4	1.88	0	1	P11388	1	0.046111	0.4911378	118	MS2	10
LLFPPK								Medium		Koustav10.raw	2	357.73300	714.45873	5.34	41.55	Unambiguous	DNA topoisomera	4	1.93	0	1	P11388	1	0.034345	0.3918338	119	MS2	10
LLFPPKDDHTLK								Medium		Koustav10.raw	3	475.27151	1423.79999	3.90	36.22	Unambiguous	DNA topoisomera	4	2.53	1	1	P11388	1	0.03379	0.3841915	167	MS2	44
LLGLPEDYLYGQTTTYLTYNDFINK								Medium		Koustav10.raw	3	985.83234	2955.48246	5.47	72.06	Unambiguous	DNA topoisomera	4	3.17	0	1	P11388	1	0.018286	0.2268074	982	MS2	96
LmDGEEPLPmLPSYK								High	M2(Oxidation); M	Koustav10.raw	2	876.41919	1751.83110	4.55	46.40	Unambiguous	DNA topoisomera	4	5.36	0	1	P11388	1	0	6.4447E-07	773	MS2	28
LmDGEEPLPmLPSYK								High	M2(Oxidation); M	Koustav10.raw	3	584.61530	1751.83133	4.68	46.51	Unambiguous	DNA topoisomera	4	4.02	0	1	P11388	1	0	8.20873E-05	932	MS2	56
LmDGEEPLPmLPSYK								High	M2(Oxidation); M	Koustav10.raw	2	876.41949	1751.83171	4.90	46.92	Unambiguous	DNA topoisomera	4	4.77	0	1	P11388	1	0	6.9096E-07	768	MS2	28
LmDGEEPLPMLPSYK								High	M2(Oxidation)	Koustav10.raw	2	868.42206	1735.83684	4.97	51.61	Unambiguous	DNA topoisomera	4	4.76	0	1	P11388	1	0	5.41991E-06	643	MS2	28
LmDGEEPLPMLPSYK								High	M2(Oxidation)	Koustav10.raw	3	579.28461	1735.83927	6.37	51.77	Unambiguous	DNA topoisomera	4	2.97	0	1	P11388	1	0.000783	0.01067955	812	MS2	56
LMDGEEPLPmLPSYK								High	M10(Oxidation)	Koustav10.raw	2	868.42261	1735.83794	5.60	50.18	Unambiguous	DNA topoisomera	4	4.05	0	1	P11388	1	0	7.54797E-05	726	MS2	28
LMDGEEPLPMLPSYK								High		Koustav10.raw	2	860.42303	1719.83879	3.19	55.67	Unambiguous	DNA topoisomera	4	4.50	0	1	P11388	1	0	1.38732E-06	630	MS2	28
LQTSLTcNSmVLFDHVGcLK								High	C7(Carbamidomet	Koustav10.raw	3	780.38177	2339.13077	4.89	53.30	Unambiguous	DNA topoisomera	4	3.24	0	1	P11388	1	0	1.88278E-05	1371	MS2	76
LQTSLTcNSMVLFDHVGcLK								High	C7(Carbamidomet	Koustav10.raw	3	775.04546	2323.12181	-1.12	59.15	Unambiguous	DNA topoisomera	4	3.76	0	1	P11388	1	0	5.36108E-05	1400	MS2	76
mQSLDKDIVALmVR								High	M1(Oxidation); M	Koustav10.raw	3	550.95996	1650.86533	5.99	45.43	Unambiguous	DNA topoisomera	4	4.78	1	1	P11388	1	0	7.41931E-05	403	MS2	52
mQSLDKDIVALMVR								High	M1(Oxidation)	Koustav10.raw	3	545.62799	1634.86942	5.44	57.74	Unambiguous	DNA topoisomera	4	4.45	1	1	P11388	1	0	2.66082E-06	306	MS2	52
mQSLDKDIVALMVR								High	M1(Oxidation)	Koustav10.raw	3	545.62805	1634.86960	5.55	58.28	Unambiguous	DNA topoisomera	4	3.63	1	1	P11388	1	0.000292	0.002089087	305	MS2	52
MQSLDKDIVALmVR								High	M12(Oxidation)	Koustav10.raw	3	545.62683	1634.86594	3.31	49.00	Unambiguous	DNA topoisomera	4	4.83	1	1	P11388	1	0	2.38455E-05	359	MS2	52

MQSLDKDIVALMVR								High		Koustav10.raw	3	540.29633	1618.87442	5.44	61.42	Unambiguous	DNA topoisomeras	4	4.90	1	1	P11388	1	0	1.91523E-06	303	MS2	52
MQSLDKDIVALMVR								High		Koustav10.raw	2	809.94293	1618.87859	8.02	61.56	Unambiguous	DNA topoisomeras	4	4.51	1	1	P11388	1	0	1.95425E-05	244	MS2	26
mYVPALIFGQLLTSSNYDDDEK								High	M1(Oxidation)	Koustav10.raw	3	845.74164	2535.21036	5.65	72.79	Unambiguous	DNA topoisomeras	5	7.57	0	1	P11388	1	0	2.78778E-09	1949	MS2	84
mYVPALIFGQLLTSSNYDDDEKK		High							M1(Oxidation)	Koustav14.raw	3	888.44138	2663.30959	6.97	70.27	Unambiguous	DNA topoisomeras	5	3.29	1	1	P11388	1	0.000185	0.001087999	1312	MS2	88
mYVPALIFGQLLTSSNYDDDEKK			High						M1(Oxidation)	Koustav13.raw	3	888.44116	2663.30893	6.73	70.49	Unambiguous	DNA topoisomeras	5	2.93	1	1	P11388	1	0.000136	0.002073919	1336	MS2	88
mYVPALIFGQLLTSSNYDDDEKK								High	M1(Oxidation)	Koustav10.raw	3	888.44165	2663.31040	7.28	70.95	Unambiguous	DNA topoisomeras	5	4.26	1	1	P11388	1	0	0.000132761	1296	MS2	88
mYVPALIFGQLLTSSNYDDDEKK								High	M1(Oxidation)	Koustav10.raw	4	666.58295	2663.30996	7.11	71.03	Unambiguous	DNA topoisomeras	5	2.70	1	1	P11388	1	0.001301	0.02057556	1335	MS2	132
MYVPALIFGQLLTSSNYDDDEKK								High		Koustav10.raw	3	883.10822	2647.31009	5.29	72.79	Unambiguous	DNA topoisomeras	5	4.89	1	1	P11388	1	0	1.35762E-07	1222	MS2	88
NEKEQELDTLK								High		Koustav10.raw	2	673.84625	1346.68523	3.99	24.39	Unambiguous	DNA topoisomeras	4	3.92	1	1	P11388	1	0.000292	0.002380493	357	MS2	20
NEKEQELDTLKR								High		Koustav10.raw	3	501.60043	1502.78675	3.84	21.81	Unambiguous	DNA topoisomeras	4	4.68	2	1	P11388	1	0	0.000106153	430	MS2	44
NENTEGSPQEDGVELEGLK								High		Koustav10.raw	3	682.31830	2044.94034	4.74	39.13	Unambiguous	DNA topoisomeras	4	6.42	0	1	P11388	1	0	3.22611E-07	1313	MS2	72
NENTEGSPQEDGVELEGLK								High		Koustav10.raw	2	1022.97552	2044.94377	6.42	39.14	Unambiguous	DNA topoisomeras	4	5.67	0	1	P11388	1	0	4.17708E-08	1169	MS2	36
NHmWIFVNALIENPTFDSQTK								High	M3(Oxidation)	Koustav10.raw	3	841.08160	2521.23026	4.81	65.80	Unambiguous	DNA topoisomeras	4	6.34	0	1	P11388	1	0	3.85559E-08	1291	MS2	80
NKQEmAFYSLPEFEEWK								High	M5(Oxidation)	Koustav10.raw	3	731.34351	2192.01596	7.02	59.16	Unambiguous	DNA topoisomeras	4	3.36	1	1	P11388	1	0	0.000220759	1380	MS2	64
NKQEMAFYSLPEFEEWK								High		Koustav10.raw	3	726.01178	2176.02079	6.95	62.69	Unambiguous	DNA topoisomeras	4	4.70	1	1	P11388	1	0	1.57739E-06	1353	MS2	64
NSTEcTLILTEGDSAK								High	C5(Carbamidomet	Koustav10.raw	2	869.91718	1738.82707	6.11	38.84	Unambiguous	DNA topoisomeras	4	6.01	0	1	P11388	1	0	1.09534E-06	614	MS2	30
NSTEcTLILTEGDSAK								High	C5(Carbamidomet	Koustav10.raw	3	580.27930	1738.82334	3.96	38.90	Unambiguous	DNA topoisomeras	4	3.13	0	1	P11388	1	0.000133	0.000719936	843	MS2	60
NYEDEDSLK								High		Koustav10.raw	2	556.74341	1112.47954	4.74	21.15	Unambiguous	DNA topoisomeras	4	2.59	0	1	P11388	1	0.000546	0.008028631	355	MS2	16
NYEDEDSLK								High		Koustav10.raw	2	556.74268	1112.47807	3.43	21.99	Unambiguous	DNA topoisomeras	4	2.44	0	1	P11388	1	0.000862	0.01297962	287	MS2	16
NYEDEDSLK								High		Koustav10.raw	2	556.74316	1112.47905	4.31	22.52	Unambiguous	DNA topoisomeras	4	1.89	0	1	P11388	1	0.001455	0.02378161	329	MS2	16
QEmAFYSLPEFEEWK								High	M3(Oxidation)	Koustav10.raw	2	975.44116	1949.87505	6.34	63.36	Unambiguous	DNA topoisomeras	4	4.15	0	1	P11388	1	0	4.70221E-06	977	MS2	28
QEmAFYSLPEFEEWK								High	M3(Oxidation)	Koustav10.raw	3	650.62993	1949.87524	6.45	63.39	Unambiguous	DNA topoisomeras	4	2.87	0	1	P11388	1	0	1.90025E-06	1267	MS2	56
QEMAFYSLPEFEEWK								High		Koustav10.raw	2	967.44495	1933.88262	7.68	67.23	Unambiguous	DNA topoisomeras	4	3.87	0	1	P11388	1	0.000241	0.000831935	1093	MS2	28
QEMAFYSLPEFEEWK								High		Koustav10.raw	3	645.29803	1933.87955	6.10	67.31	Unambiguous	DNA topoisomeras	4	2.89	0	1	P11388	1	0	0.000120785	1250	MS2	56
QImENAEINNIIK						High			M3(Oxidation)	Koustav12.raw	2	773.40680	1545.80632	7.84	42.75	Unambiguous	Isoform Beta-1 of	7	3.73	0	2	Q02880-2;P1138	1	0	0.000410015	313	MS2	24
QImENAEINNIIK								High	M3(Oxidation)	Koustav10.raw	2	773.40417	1545.80107	4.45	42.40	Unambiguous	Isoform Beta-1 of	7	4.04	0	2	Q02880-2;P1138	1	0	4.64956E-06	322	MS2	24
QImENAEINNIIK								High	M3(Oxidation)	Koustav10.raw	3	515.93854	1545.80106	4.44	42.44	Unambiguous	Isoform Beta-1 of	7	4.79	0	2	Q02880-2;P1138	1	0	4.38703E-06	420	MS2	48
QIMENAEINNIIK								High		Koustav10.raw	2	765.40405	1529.80083	1.01	47.80	Unambiguous	Isoform Beta-1 of	7	4.38	0	2	Q02880-2;P1138	1	0	1.1823E-06	314	MS2	24
QTTLAFKPIK		Medium								Koustav14.raw	3	382.90189	1146.69110	2.56	36.02	Unambiguous	DNA topoisomeras	4	1.98	0	1	P11388	1	0.011722	0.1981433	75	MS2	36
QTTLAFKPIK								High		Koustav10.raw	2	573.85065	1146.69402	5.10	36.04	Unambiguous	DNA topoisomeras	4	2.47	0	1	P11388	1	0.000783	0.01096501	54	MS2	18
QTTLAFKPIKK								Medium		Koustav10.raw	3	425.60117	1274.78894	4.55	29.16	Unambiguous	DNA topoisomeras	4	1.41	1	1	P11388	1	0.042615	0.4607378	28	MS2	40
QTTLAFKPIKK								High		Koustav10.raw	4	319.45279	1274.78933	4.85	29.17	Unambiguous	DNA topoisomeras	4	1.86	1	1	P11388	1	0.000292	0.001695327	28	MS2	60
QTWmDNmGR								High	M4(Oxidation); M	Koustav10.raw	2	585.73993	1170.47258	5.01	17.87	Unambiguous	DNA topoisomeras	4	2.03	0	1	P11388	1	0.00241	0.03381048	251	MS2	16
QTWmDNmGR								High	M4(Oxidation); M	Koustav10.raw	2	585.73932	1170.47136	3.96	18.40	Unambiguous	DNA topoisomeras	4	2.43	0	1	P11388	1	0.001242	0.01632627	248	MS2	16
QTWMDNMGR								High		Koustav10.raw	2	569.74487	1138.48247	4.90	37.15	Unambiguous	DNA topoisomeras	4	2.53	0	1	P11388	1	0.001187	0.01555454	382	MS2	16
RAYDIAGSTK		Medium								Koustav14.raw	2	541.28613	1081.56499	1.20	18.85	Unambiguous	DNA topoisomeras	4	2.61	1	1	P11388	1	0.02079	0.2363417	327	MS2	18
RAYDIAGSTK							High			Koustav9.raw	2	541.28790	1081.56853	4.47	18.68	Unambiguous	DNA topoisomeras	4	2.99	1	1	P11388	1	0.000579	0.01396301	338	MS2	18
RAYDIAGSTK								High		Koustav10.raw	2	541.28712	1081.56697	3.03	18.56	Unambiguous	DNA topoisomeras	4	3.72	1	1	P11388	1	0.000292	0.002656873	361	MS2	18
RAYDIAGSTK								High		Koustav10.raw	3	361.19424	1081.56818	4.15	18.67	Unambiguous	DNA topoisomeras	4	2.78	1	1	P11388	1	0.000381	0.005786846	375	MS2	36
RDPALNSGVSQKPDPAK	High									Koustav15.raw	3	593.98615	1779.94388	5.06	19.64	Unambiguous	DNA topoisomeras	4	4.84	1	1	P11388	1	0	4.32283E-06	359	MS2	64
RDPALNSGVSQKPDPAK		High								Koustav14.raw	3	593.98572	1779.94260	4.34	19.73	Unambiguous	DNA topoisomeras	4	3.71	1	1	P11388	1	0	2.72467E-05	383	MS2	64
RDPALNSGVSQKPDPAK			High							Koustav13.raw	3	593.98639	1779.94461	5.47	20.03	Unambiguous	DNA topoisomeras	4	4.40	1	1	P11388	1	0	2.10224E-06	321	MS2	64
RDPALNSGVSQKPDPAK								High		Koustav10.raw	3	593.98627	1779.94425	5.26	19.57	Unambiguous	DNA topoisomeras	4	4.18	1	1	P11388	1	0	3.85073E-05	357	MS2	64
RDPALNSGVSQKPDPAK								High		Koustav10.raw	4	445.74075	1779.94118	3.54	19.69	Unambiguous	DNA topoisomeras	4	2.89	1	1	P11388	1	0.001242	0.01681464	401	MS2	96
RKPSTSDDSDSNFEK	High									Koustav15.raw	3	571.59937	1712.78354	6.58	13.90	Unambiguous	DNA topoisomeras	4	3.35	1	1	P11388	1	0.000172	0.001684059	1055	MS2	56
RLmDGEEPLPmLPSYK								High	M3(Oxidation); M	Koustav10.raw	3	636.64960	1907.93424	5.23	43.77	Unambiguous	DNA topoisomeras	4	3.47	1	1	P11388	1	0.000292	0.001602058	838	MS2	60
RLmDGEEPLPMLPSYK								High	M3(Oxidation)	Koustav10.raw	3	631.31671	1891.93558	3.30	48.38	Unambiguous	DNA topoisomeras	4	3.14	1	1	P11388	1	0.000292	0.002137899	705	MS2	60
SFGSTcQLSEK			High						C6(Carbamidomet	Koustav13.raw	2	622.28754	1243.56780	4.36	26.68	Unambiguous	DNA topoisomeras	4	3.60	0	1	P11388	1	0	0.000639524	493	MS2	20
SFGSTcQLSEK				High					C6(Carbamidomet	Koustav16.raw	2	622.28693	1243.56658	3.38	26.56	Unambiguous	DNA topoisomeras	4	3.37	0	1	P11388	1	0.000529	0.009000734	441	MS2	20
SFGSTcQLSEK					High				C6(Carbamidomet	Koustav11.raw	2	622.28784	1243.56841	4.85	26.32	Unambiguous	DNA topoisomeras	4	2.74	0	1	P11388	1	0	0.000278309	466	MS2	20
SFGSTcQLSEK						High			C6(Carbamidomet	Koustav12.raw	2	622.28778	1243.56828	4.75	26.57	Unambiguous	DNA topoisomeras	4	3.73	0	1	P11388	1	0	0.000844469	463	MS2	20
SFGSTcQLSEK							High		C6(Carbamidomet	Koustav9.raw	2	622.28851	1243.56975	5.93	26.20	Unambiguous	DNA topoisomeras	4	3.30	0	1	P11388	1	0.000304	0.000834045	454	MS2	20
SFGSTcQLSEK								High	C6(Carbamidomet	Koustav10.raw	2	622.28772	1243.56816	4.65	25.93	Unambiguous	DNA topoisomeras	4	3.30	0	1	P11388	1	0.000241	0.000810372	495	MS2	20
SFGSTcQLSEK								High	C6(Carbamidomet	Koustav10.raw	2	622.28705	1243.56682	3.57	26.46	Unambiguous	DNA topoisomeras	4	3.82	0	1	P11388	1	0	0.000123353	422	MS2	20
SIPSmVDGLKPGQR								High	M5(Oxidation)	Koustav10.raw	2	750.89972	1500.79216	5.45	30.70	Unambiguous	DNA topoisomeras	4	3.21	0	1	P11388	1	0.000133	0.000478085	282	MS2	26
SIPSmVDGLKPGQR								High	M5(Oxidation)	Koustav10.raw	2	750.89850	1500.78972	3.83	31.24	Unambiguous	DNA topoisomeras	4	2.59	0	1	P11388	1	0.000292	0.001638515	305	MS2	26
SKGESDDFHmDFDSAVAPR								High	M10(Oxidation)	Koustav10.raw	4	532.48572	2126.92104	5.90	35.39	Unambiguous	DNA topoisomeras	4	3.80	1	1	P11388	1	0	5.69953E-05	1771	MS2	108
SKGESDDFHmDFDSAVAPR								High	M10(Oxidation)	Koustav10.raw	3	709.64435	2126.91849	4.70	35.51	Unambiguous	DNA topoisomeras	4	4.42	1	1	P11388	1	0	0.000155837	1770	MS2	72
SKGESDDFHMDFDSAVAPR								High		Koustav10.raw	4	528.48608	2110.92251	4.23	43.02	Unambiguous	DNA topoisomeras	4	2.94	1	1	P11388	1	0.00806	0.1026385	1771	MS2	108
SPSDLWK								High		Koustav10.raw	2	416.71581	832.42435	5.25	33.51	Unambiguous	Isoform Beta-1 of	7	2.46	0	3	Q02880-2;P1138	1	0.00306	0.03900887	204	MS2	12
SVVSDLEADDVK		High								Koustav14.raw	2	638.81799	1276.62871	1.52	40.63	Unambiguous	DNA topoisomeras	4	4.17	0	1	P11388	1	0.000185	2.72467E-05	405	MS2	22
SVVSDLEADDVK			High							Koustav13.raw	2	638.82159	1276.63591	7.16	40.79	Unambiguous	DNA topoisomeras	4	4.10	0	1	P11388	1	0	7.53134E-06	379	MS2	22
SVVSDLEADDVK				High						Koustav16.raw	2	638.81982	1276.63237	4.39	40.44	Unambiguous	DNA topoisomeras	4	3.82	0	1	P11388	1	0	0.001213064	434	MS2	22
SVVSDLEADDVK							High			Koustav9.raw	2	638.82147	1276.63567	6.97	40.15	Unambiguous	DNA topoisomeras	4	3.78	0	1	P11388	1	0	7.10281E-05	387	MS2	22
SVVSDLEADDVK								High		Koustav10.raw	2	638.82056	1276.63384	5.53	40.22	Unambiguous	DNA topoisomeras	4	4.28	0	1	P11388	1	0	7.18274E-05	344	MS2	22
SVVSDLEADDVK								High		Koustav10.raw	2	638.82019	1276.63310	4.96	40.75	Unambiguous	DNA topoisomeras	4	4.05	0	1	P11388	1	0	0.000329399	355	MS2	22
SYVDmYLK								High	M5(Oxidation)	Koustav10.raw	2	517.74988	1034.49248	5.94	38.34	Unambiguous	DNA topoisomeras	4	2.20	0	1	P11388	1	0.001739	0.02708623	256	MS2	14
SYVDmYLK								High	M5(Oxidation)	Koustav10.raw	2	517.74872	1034.49016	3.70	38.89	Unambiguous	DNA topoisomeras	4	2.70	0	1	P11388	1	0.000381	0.005359189	263	MS2	14
SYVDMYLK								High		Koustav10.raw	2	509.75204	1018.49681	5.29	42.68	Unambiguous	DNA topoisomeras	4	2.57	0	1	P11388	1	0.000292	0.002969116	268	MS2	14
TLAVSGLGVVGR								High		Koustav10.raw	2	564.84283	1128.67839	4.24	43.80	Unambiguous	DNA topoisomeras	4	4.31	0	1	P11388	1	0	7.69959E-06	118	MS2	22
TLAVSGLGVVGR								High		Koustav10.raw	2	564.84265	1128.67803	3.92	44.53	Unambiguous	DNA topoisomeras	4	4.18	0	1	P11388	1	0	3.11244E-05	147	MS2	22
TPPLITDYR						High				Koustav12.raw	2	538.29547	1075.58367	5.02	38.35	Unambiguous	DNA topoisomeras	4	2.13	0	1	P11388	1	0.000346	0.01338736	261	MS2	16
TPPLITDYR							High			Koustav9.raw	2	538.29547	1075.58367	5.02	37.92	Unambiguous	DNA topoisomeras	4	2.21	0	1	P11388	1	0.000304	0.000834045	297	MS2	16
TPPLITDYR								High		Koustav10.raw	2	538.29547	1075.58366	5.01	37.89	Unambiguous	DNA topoisomeras	4	2.83	0	1	P11388	1	0.000133	0.000721932	274	MS2	16
TPPLITDYR								High		Koustav10.raw	2	538.29572	1075.58415	5.47	38.84	Unambiguous	DNA topoisomeras	4	2.53	0	1	P11388	1	0.000783	0.01206658	275	MS2	16
TQmAEVLPSPR						High			M3(Oxidation)	Koustav12.raw	2	622.82166	1244.63603	4.51	29.26	Unambiguous	DNA topoisomeras	4	2.61	0	1	P11388	1	0	0.009566384	425	MS2	20
TQmAEVLPSPR							High		M3(Oxidation)	Koustav9.raw	2	622.82349	1244.63970	7.46	28.82	Unambiguous	DNA topoisomeras	4	3.70	0	1	P11388	1	0	4.58844E-05	390	MS2	20
TQmAEVLPSPR								High	M3(Oxidation)	Koustav10.raw	2	622.82176	1244.63624	4.68	28.58	Unambiguous	DNA topoisomeras	4	3.89	0	1	P11388	1	0	1.52356E-05	374	MS2	20
TQMAEVLPSPR								High		Koustav10.raw	2	614.82437	1228.64146	4.85	36.65	Unambiguous	DNA topoisomeras	4	4.00	0	1	P11388	1	0	5.25546E-05	312	MS2	20
TWTQTYK								High		Koustav10.raw	2	464.23395	927.46062	3.83	24.13	Unambiguous	DNA topoisomeras	4	2.10	0	1	P11388	1	0.005346	0.06660709	351	MS2	12
VLFTcFK								Medium	C5(Carbamidomet	Koustav10.raw	2	457.74637	914.48546	5.45	45.53	Unambiguous	Isoform Beta-1 of	7	1.71	0	2	Q02880-2;P1138	1	0.025164	0.2968945	155	MS2	12
VLIQR								Medium		Koustav10.raw	2	314.71228	628.41728	5.06	19.66	Unambiguous	Alpha-2-macroglo	10	1.57	0	1	P11388	3	0.028401	0.3270367	97	MS2	8
VPDEEENEEsDNEKETEK								Medium	S10(Phospho)	Koustav10.raw	3	743.96088	2229.86808	5.61	15.88	Unambiguous	DNA topoisomeras	4	2.33	1	1	P11388	1	0.014636	0.1818286	1821	MS2	100
VPDEEENEEsDNEKETEK								High	S10(Phospho)	Koustav10.raw	3	743.96039	2229.86661	4.95	16.43	Unambiguous	DNA topoisomeras	4	2.17	1	1	P11388	1	0.007435	0.09429929	1781	MS2	100
VPDEEENEESDNEKETEK								High		Koustav10.raw	3	717.30457	2149.89914	4.61	15.21	Unambiguous	DNA topoisomeras	4	3.66	1	1	P11388	1	0	2.7097E-05	1753	MS2	68
VTIDPENNLISIWNNGK								High		Koustav10.raw	3	643.00574	1927.00266	5.50	62.71	Unambiguous	DNA topoisomeras	5	4.36	0	1	P11388	1	0	1.43816E-05	473	MS2	64
VTIDPENNLISIWNNGK								High		Koustav10.raw	2	964.00616	1927.00505	6.75	62.85	Unambiguous	DNA topoisomeras	5	5.17	0	1	P11388	1	0	3.90893E-07	373	MS2	32
WEVcLTmSEK								High	C4(Carbamidomet	Koustav10.raw	2	649.79504	1298.58281	5.55	40.89	Unambiguous	DNA topoisomeras	4	3.09	0	1	P11388	1	0	9.62394E-05	442	MS2	18
YDTVLDILR							High			Koustav9.raw	2	554.30835	1107.60942	4.45	58.92	Unambiguous	DNA topoisomeras	4	2.03	0	1	P11388	1	0.000304	0.000834045	192	MS2	16
YDTVLDILR								High		Koustav10.raw	2	554.30902	1107.61077	5.66	59.36	Unambiguous	DNA topoisomeras	4	3.26	0	1	P11388	1	0	0.00025983	193	MS2	16
YDTVLDILR								High		Koustav10.raw	2	554.31000	1107.61272	7.43	60.10	Unambiguous	DNA topoisomeras	4	2.52	0	1	P11388	1	0.000241	0.000975854	220	MS2	16
YGVFPLR								High		Koustav10.raw	2	426.24435	851.48143	4.70	45.56	Unambiguous	Isoform Beta-1 of	7	2.30	0	2	Q02880-2;P1138	1	0.000936	0.01378671	185	MS2	12
YGVFPLR								High		Koustav10.raw	2	426.24411	851.48094	4.12	46.06	Unambiguous	Isoform Beta-1 of	7	2.28	0	2	Q02880-2;P1138	1	0.001301	0.01925877	168	MS2	12
YIFTmLSSLAR								High	M5(Oxidation)	Koustav10.raw	2	659.34930	1317.69133	3.15	55.56	Unambiguous	DNA topoisomeras	4	4.24	0	1	P11388	1	0	6.73779E-05	366	MS2	20
YIFTmLSSLAR								High	M5(Oxidation)	Koustav10.raw	2	659.34991	1317.69255	4.07	56.15	Unambiguous	DNA topoisomeras	4	3.91	0	1	P11388	1	0	1.83169E-05	402	MS2	20
YIFTMLSSLAR								High		Koustav10.raw	2	651.35455	1301.70183	7.34	66.62	Unambiguous	DNA topoisomeras	4	3.99	0	1	P11388	1	0	0.000122318	276	MS2	20
YLEESDEDDLF								High		Koustav10.raw	2	687.78766	1374.56804	7.01	52.87	Unambiguous	DNA topoisomeras	5	3.34	0	1	P11388	1	0.000936	0.01481114	432	MS2	20
YSGPEDDAAISLAFSK					High					Koustav11.raw	2	835.90259	1670.79790	4.20	50.23	Unambiguous	DNA topoisomeras	4	4.21	0	1	P11388	1	0	1.38544E-08	694	MS2	30
YSGPEDDAAISLAFSK								High		Koustav10.raw	2	835.90381	1670.80034	5.66	49.93	Unambiguous	DNA topoisomeras	4	5.66	0	1	P11388	1	0	3.57178E-06	559	MS2	30
YSGPEDDAAISLAFSK								High		Koustav10.raw	2	835.90283	1670.79839	4.49	50.46	Unambiguous	DNA topoisomeras	4	5.68	0	1	P11388	1	0	1.87786E-05	633	MS2	30
YYGLR								Medium		Koustav10.raw	2	336.18082	671.35436	4.79	26.75	Unambiguous	DNA topoisomeras	4	1.08	0	1	P11388	1	0.049353	0.5198445	105	MS2	8

Q02880-2	Isoform Beta-1 of DNA topoisomerase 2-beta OS=Homo sapiens GN=TOP2B - [**TOP2B**_HUMAN	43.43	17	48	77	152	1621	182.5

Sequence	A3	B3	C3	D3	E3	F3	G3	H3	Modifications	Spectrum File	Charge	m/z [Da]	MH+ [Da]	ΔM [ppm]	RT [min]	PSM Ambiguity	Protein Description	# Proteins	XCorr	# Missed Cleavage	# Protein Groups	tein Group Accessi	earch Engine Ran	q-Value	PEP	Peptides Matched	MS Order	Total Ions
AGVSVKPFQVK			High							Koustav13.raw	3	387.23398	1159.68738	3.41	34.80	Unambiguous	Isoform Beta-1 of	3	2.53	0	1	Q02880-2	1	0	0.000414731	87	MS2	40
AGVSVKPFQVK				High						Koustav16.raw	3	387.23425	1159.68821	4.12	34.29	Unambiguous	Isoform Beta-1 of	3	2.14	0	1	Q02880-2	2	0.001267	0.02465586	87	MS2	40
AGVSVKPFQVK								High		Koustav10.raw	3	387.23395	1159.68730	3.34	34.20	Unambiguous	Isoform Beta-1 of	3	2.11	0	1	Q02880-2	1	0.000783	0.009614068	87	MS2	40
ASGSENEGDYNPGR	High									Koustav15.raw	2	726.80646	1452.60564	4.81	16.35	Unambiguous	Isoform Beta-1 of	3	3.66	0	2	Q02880-2;B4DLV	1	0	3.03569E-05	627	MS2	26
AYDLAGScR								High	C8(Carbamidomet	Koustav10.raw	2	506.73135	1012.45543	3.69	23.69	Unambiguous	Isoform Beta-1 of	3	3.29	0	1	Q02880-2	1	0.000241	0.000849249	442	MS2	16
DKLDETGVALK			High							Koustav13.raw	2	594.82855	1188.64983	2.29	29.25	Unambiguous	Isoform Beta-1 of	3	3.39	1	1	Q02880-2	1	0.006768	0.07959256	269	MS2	20
DKLDETGVALK								High		Koustav10.raw	2	594.83057	1188.65386	5.67	28.70	Unambiguous	Isoform Beta-1 of	3	3.27	1	1	Q02880-2	1	0.005941	0.07068309	260	MS2	20
DLIQmLVQR								High	M5(Oxidation)	Koustav10.raw	2	566.31647	1131.62566	5.78	53.42	Unambiguous	Isoform Beta-1 of	3	3.36	0	1	Q02880-2	1	0	0.000336912	331	MS2	16
DLIQmLVQR								High	M5(Oxidation)	Koustav10.raw	2	566.31622	1131.62517	5.35	54.03	Unambiguous	Isoform Beta-1 of	3	3.37	0	1	Q02880-2	1	0.000292	0.004437866	266	MS2	16
DLIQMLVQR						High				Koustav12.raw	2	558.31982	1115.63237	7.32	61.73	Unambiguous	Isoform Beta-1 of	3	3.67	0	1	Q02880-2	1	0	0.001381888	230	MS2	16
DLIQMLVQR								High		Koustav10.raw	2	558.31976	1115.63225	7.21	62.25	Unambiguous	Isoform Beta-1 of	3	3.81	0	1	Q02880-2	1	0.000292	0.002823722	219	MS2	16
DSLLR								Medium		Koustav10.raw	2	302.17837	603.34947	5.61	22.32	Unambiguous	Isoform Beta-1 of	18	1.85	0	3	Q02880-2;B4DLV	4	0.022407	0.2676867	245	MS2	8
EDLAAFVEELDKVESQER								High		Koustav10.raw	3	703.01532	2107.03141	5.85	66.68	Unambiguous	Isoform Beta-1 of	3	2.57	1	2	Q02880-2;B4DLV	1	0	3.10076E-06	1041	MS2	68

EDVLAGmSGK								Medium	M7(Oxidation)	Koustav10.raw	2	511.74652	1022.48577	3.34	19.60	Unambiguous	Isoform Beta-1 of	3	3.31	0	2	Q02880-2;B4DLV	1	0.016191	0.2051855	318	MS2	18
EDVLAGmSGK								High	M7(Oxidation)	Koustav10.raw	2	511.74689	1022.48650	4.05	20.31	Unambiguous	Isoform Beta-1 of	3	3.51	0	2	Q02880-2;B4DLV	1	0.000133	0.000524064	247	MS2	18
EDVLAGMSGK								High		Koustav10.raw	2	503.74979	1006.49230	4.82	34.02	Unambiguous	Isoform Beta-1 of	3	2.57	0	2	Q02880-2;B4DLV	1	0.000241	0.000763983	288	MS2	18
EIVNNVR				Medium						Koustav16.raw	2	422.24094	843.47460	7.43	18.80	Unambiguous	Isoform Beta-1 of	3	2.03	0	1	Q02880-2	1	0.041517	0.4178283	284	MS2	12
EIVNNVR						Medium				Koustav12.raw	2	422.24005	843.47283	5.33	18.66	Unambiguous	Isoform Beta-1 of	3	2.18	0	1	Q02880-2	1	0.022856	0.2261699	285	MS2	12
EIVNNVR								High		Koustav10.raw	2	422.23935	843.47142	3.66	18.80	Unambiguous	Isoform Beta-1 of	3	1.93	0	1	Q02880-2	1	0.006436	0.07910494	288	MS2	12
ELILFSNSDNER					High					Koustav11.raw	2	718.85852	1436.70976	5.64	48.42	Unambiguous	Isoform Beta-1 of	7	4.19	0	2	Q02880-2;P11388	1	0	4.9446E-12	485	MS2	22
ELILFSNSDNER								High		Koustav10.raw	2	718.85883	1436.71037	6.06	48.16	Unambiguous	Isoform Beta-1 of	7	4.08	0	2	Q02880-2;P11388	1	0	1.31308E-05	445	MS2	22
ELILFSNSDNER								High		Koustav10.raw	3	479.57410	1436.70774	4.23	48.30	Unambiguous	Isoform Beta-1 of	7	3.47	0	2	Q02880-2;P11388	1	0	0.000306014	549	MS2	44
ENMTLQPK								High		Koustav10.raw	2	480.74655	960.48583	4.04	23.32	Selected	Isoform Beta-1 of	7	1.74	0	2	Q02880-2;P11388	1	0.003673	0.04522011	248	MS2	14
EVTFVPGLYK	Medium									Koustav15.raw	2	576.81995	1152.63262	2.29	48.52	Unambiguous	Isoform Beta-1 of	8	1.93	0	2	Q02880-2;P11388	1	0.025379	0.2842081	184	MS2	18
EVTFVPGLYK			Medium							Koustav13.raw	2	576.81860	1152.62993	-0.04	49.04	Unambiguous	Isoform Beta-1 of	8	1.96	0	2	Q02880-2;P11388	1	0.031775	0.3518483	177	MS2	18
EVTFVPGLYK								Medium		Koustav10.raw	2	576.81824	1152.62920	-0.68	49.04	Unambiguous	Isoform Beta-1 of	8	2.12	0	2	Q02880-2;P11388	1	0.030775	0.3500853	191	MS2	18
EWLTNFmEDR								High	M7(Oxidation)	Koustav10.raw	2	678.80200	1356.59673	5.74	48.24	Unambiguous	Isoform Beta-1 of	7	3.27	0	2	Q02880-2;P11388	1	0	0.000149408	514	MS2	18
EWLTNFMEDR								High		Koustav10.raw	2	670.80487	1340.60246	6.29	59.36	Unambiguous	Isoform Beta-1 of	7	2.95	0	2	Q02880-2;P11388	1	0.000241	0.000912374	487	MS2	18
EWLVGmLGAESTK								High	M6(Oxidation)	Koustav10.raw	2	718.86322	1436.71916	7.02	49.80	Unambiguous	Isoform Beta-1 of	4	4.20	0	1	Q02880-2	1	0	2.90696E-05	386	MS2	24
EYFADMER								High		Koustav10.raw	2	530.72638	1060.44548	4.73	35.04	Unambiguous	Isoform Beta-1 of	3	2.20	0	1	Q02880-2	1	0.001522	0.02411999	330	MS2	14
FLYDDNQR							Medium			Koustav9.raw	2	535.75159	1070.49590	5.34	29.22	Unambiguous	Isoform Beta-1 of	7	1.93	0	2	Q02880-2;P11388	1	0.044705	0.3748599	525	MS2	14
FLYDDNQR								High		Koustav10.raw	2	535.75067	1070.49406	3.63	29.17	Unambiguous	Isoform Beta-1 of	7	2.26	0	2	Q02880-2;P11388	1	0.000862	0.01301193	506	MS2	14
FTVETAcK								Medium	C7(Carbamidomet	Koustav10.raw	2	478.23315	955.45903	3.82	24.33	Unambiguous	Isoform Beta-1 of	3	2.33	0	1	Q02880-2	1	0.030775	0.3502531	464	MS2	14
GDLDTAAVK								High		Koustav10.raw	2	445.23578	889.46428	1.90	21.36	Unambiguous	Isoform Beta-1 of	3	2.62	0	2	Q02880-2;B4DLV	1	0.001739	0.02771622	271	MS2	16
GFQQISFVNSIATTK			High							Koustav13.raw	2	820.94073	1640.87419	6.02	53.44	Unambiguous	Isoform Beta-1 of	3	5.50	0	1	Q02880-2	1	0	1.86233E-07	261	MS2	28
GFQQISFVNSIATTK			High							Koustav13.raw	3	547.62933	1640.87345	5.57	53.46	Unambiguous	Isoform Beta-1 of	3	4.55	0	1	Q02880-2	1	0	1.53116E-06	347	MS2	56
GFQQISFVNSIATTK								High		Koustav10.raw	3	547.62915	1640.87290	5.23	53.25	Unambiguous	Isoform Beta-1 of	3	5.52	0	1	Q02880-2	1	0	1.12942E-07	331	MS2	56
GFQQISFVNSIATTK								High		Koustav10.raw	2	820.94061	1640.87395	5.87	53.29	Unambiguous	Isoform Beta-1 of	3	5.66	0	1	Q02880-2	1	0	8.43123E-06	261	MS2	28
GIPVVEHK								Medium		Koustav10.raw	2	439.76016	878.51305	4.07	22.04	Unambiguous	Isoform Beta-1 of	8	1.56	0	2	Q02880-2;P11388	1	0.01397	0.1744991	156	MS2	14
GTIQELGQNQYAVSGEIFVVDR					High					Koustav11.raw	3	808.41632	2423.23441	5.85	57.59	Unambiguous	Isoform Beta-1 of	3	5.35	0	1	Q02880-2	1	0	3.87246E-16	813	MS2	84
GTIQELGQNQYAVSGEIFVVDR								High		Koustav10.raw	3	808.41381	2423.22688	2.74	56.93	Unambiguous	Isoform Beta-1 of	3	7.11	0	1	Q02880-2	1	0	5.46607E-08	837	MS2	84
GYESDPVK								Medium		Koustav10.raw	2	447.71521	894.42314	3.10	17.93	Unambiguous	Isoform Beta-1 of	3	2.32	0	1	Q02880-2	1	0.022235	0.2653589	166	MS2	14
HGFLEEFITPIVK		High								Koustav14.raw	3	510.61948	1529.84388	4.94	64.04	Unambiguous	Isoform Beta-1 of	3	3.94	0	1	Q02880-2	1	0	2.72467E-05	237	MS2	48
HGFLEEFITPIVK				High						Koustav16.raw	3	510.61960	1529.84424	5.18	63.77	Unambiguous	Isoform Beta-1 of	3	3.92	0	1	Q02880-2	1	0	0.000696894	241	MS2	48
HGFLEEFITPIVK						High				Koustav12.raw	3	510.62015	1529.84589	6.26	64.16	Unambiguous	Isoform Beta-1 of	3	3.55	0	1	Q02880-2	1	0	0.005194545	232	MS2	48
HGFLEEFITPIVK								High		Koustav10.raw	3	510.61969	1529.84452	5.36	64.77	Unambiguous	Isoform Beta-1 of	3	4.47	0	1	Q02880-2	1	0	1.14744E-07	234	MS2	48
HGFLEEFITPIVK								High		Koustav10.raw	2	765.42603	1529.84477	5.53	64.86	Unambiguous	Isoform Beta-1 of	3	4.19	0	1	Q02880-2	1	0	1.67067E-05	233	MS2	24
HGFLEEFITPIVK								High		Koustav10.raw	3	510.61938	1529.84360	4.77	65.30	Unambiguous	Isoform Beta-1 of	3	3.50	0	1	Q02880-2	1	0.000292	0.003212812	234	MS2	48
HSLEcTLILTEGDSAK								High	C5(Carbamidomet	Koustav10.raw	3	591.96343	1773.87575	3.91	42.24	Unambiguous	Isoform Beta-1 of	3	3.79	0	1	Q02880-2	1	0.000133	0.000377152	652	MS2	60
HVDYVVDQVVGK			High							Koustav13.raw	2	679.36218	1357.71709	4.42	36.63	Unambiguous	Isoform Beta-1 of	3	4.43	0	1	Q02880-2	1	0	2.5357E-06	279	MS2	22
HVDYVVDQVVGK								High		Koustav10.raw	3	453.24448	1357.71888	5.73	36.00	Unambiguous	Isoform Beta-1 of	3	4.45	0	1	Q02880-2	1	0	0.00014481	377	MS2	44
HVDYVVDQVVGK								High		Koustav10.raw	2	679.36292	1357.71855	5.50	36.04	Unambiguous	Isoform Beta-1 of	3	4.98	0	1	Q02880-2	1	0	2.30921E-05	289	MS2	22
IFDEILVNAADNK	High									Koustav15.raw	3	487.92691	1461.76618	5.28	51.01	Unambiguous	Isoform Beta-1 of	8	3.72	0	2	Q02880-2;P11388	1	0	1.16842E-08	420	MS2	48
IFDEILVNAADNK	High									Koustav15.raw	2	731.38715	1461.76702	5.85	51.03	Unambiguous	Isoform Beta-1 of	8	4.13	0	2	Q02880-2;P11388	1	0	3.67403E-09	349	MS2	24
IFDEILVNAADNK			High							Koustav13.raw	2	731.38593	1461.76457	4.18	51.37	Unambiguous	Isoform Beta-1 of	8	4.29	0	2	Q02880-2;P11388	1	0	0.00020797	360	MS2	24
IFDEILVNAADNK			High							Koustav13.raw	3	487.92599	1461.76343	3.40	51.42	Unambiguous	Isoform Beta-1 of	8	3.85	0	2	Q02880-2;P11388	1	0	1.08319E-07	437	MS2	48
IFDEILVNAADNK					High					Koustav11.raw	2	731.38733	1461.76738	6.10	51.38	Unambiguous	Isoform Beta-1 of	8	4.19	0	2	Q02880-2;P11388	1	0	9.90688E-13	352	MS2	24
IFDEILVNAADNK								High		Koustav10.raw	3	487.92639	1461.76462	4.21	51.03	Unambiguous	Isoform Beta-1 of	8	4.23	0	2	Q02880-2;P11388	1	0	2.30399E-08	424	MS2	48
IFDEILVNAADNK								High		Koustav10.raw	2	731.38690	1461.76653	5.52	51.12	Unambiguous	Isoform Beta-1 of	8	4.50	0	2	Q02880-2;P11388	1	0.000292	0.002716907	341	MS2	24
IFDEILVNAADNK								High		Koustav10.raw	3	487.92648	1461.76490	4.40	51.57	Unambiguous	Isoform Beta-1 of	8	3.88	0	2	Q02880-2;P11388	1	0	5.45225E-06	412	MS2	48
IIPEITAmK								High	M8(Oxidation)	Koustav10.raw	2	516.29590	1031.58452	3.79	34.32	Unambiguous	Isoform Beta-1 of	3	1.42	0	2	Q02880-2;B4DLV	1	0.003198	0.04102075	176	MS2	16
IKHFDGEDYTcITFQPDLSK								High	C11(Carbamidome	Koustav10.raw	4	604.29199	2414.14614	5.29	46.66	Unambiguous	Isoform Beta-1 of	3	3.71	1	1	Q02880-2	1	0	0.000223428	1778	MS2	114
IKHFDGEDYTcITFQPDLSK								High	C11(Carbamidome	Koustav10.raw	3	805.38617	2414.14396	4.38	46.67	Unambiguous	Isoform Beta-1 of	3	6.36	1	1	Q02880-2	1	0	4.30143E-08	1859	MS2	76
ImImTDQDQDGSHIK						High			M2(Oxidation); M	Koustav12.raw	3	588.60248	1763.79288	-0.61	25.59	Unambiguous	Isoform Beta-1 of	7	5.12	0	2	Q02880-2;P11388	1	0	4.9302E-05	1100	MS2	56
ImImTDQDQDGSHIK								High	M2(Oxidation); M	Koustav10.raw	3	588.60321	1763.79508	0.64	25.13	Unambiguous	Isoform Beta-1 of	7	4.90	0	2	Q02880-2;P11388	1	0	2.53894E-08	1098	MS2	56
ImImTDQDQDGSHIK								High	M2(Oxidation); M	Koustav10.raw	2	882.40228	1763.79729	1.89	25.37	Unambiguous	Isoform Beta-1 of	7	5.10	0	2	Q02880-2;P11388	1	0	4.38293E-06	958	MS2	28
ImImTDQDQDGSHIK								High	M2(Oxidation); M	Koustav10.raw	3	588.60571	1763.80259	4.90	25.65	Unambiguous	Isoform Beta-1 of	7	5.44	0	2	Q02880-2;P11388	1	0	2.25142E-08	1139	MS2	56
ImIMTDQDQDGSHIK								High	M2(Oxidation)	Koustav10.raw	3	583.27350	1747.80594	3.95	30.60	Unambiguous	Isoform Beta-1 of	7	4.71	0	2	Q02880-2;P11388	1	0	8.67161E-08	1072	MS2	56
IMIMTDQDQDGSHIK								High		Koustav10.raw	3	577.93878	1731.80179	-1.35	33.58	Unambiguous	Isoform Beta-1 of	7	2.85	0	2	Q02880-2;P11388	1	0	4.70463E-07	1013	MS2	56
ITIENR								High		Koustav10.raw	2	373.21509	745.42290	3.47	18.98	Unambiguous	Isoform Beta-1 of	4	1.95	0	1	Q02880-2	1	0.007772	0.09726713	306	MS2	10
KASGSENEGDYNPGR	High									Koustav15.raw	3	527.57208	1580.70169	5.11	13.99	Unambiguous	Isoform Beta-1 of	3	3.23	1	2	Q02880-2;B4DLV	1	0	0.000272467	766	MS2	56
KDLIQMLVQR								High		Koustav10.raw	3	415.24649	1243.72492	4.62	56.54	Unambiguous	Isoform Beta-1 of	3	3.72	1	1	Q02880-2	1	0.000546	0.00776894	165	MS2	36
KEWLTNFmEDR						High			M8(Oxidation)	Koustav12.raw	3	495.56912	1484.69281	5.99	42.12	Unambiguous	Isoform Beta-1 of	7	3.58	1	2	Q02880-2;P11388	1	0	0.002155733	670	MS2	40
KEWLTNFmEDR								High	M8(Oxidation)	Koustav10.raw	3	495.56863	1484.69135	5.01	41.61	Unambiguous	Isoform Beta-1 of	7	4.78	1	2	Q02880-2;P11388	1	0	4.42661E-05	660	MS2	40
KEWLTNFmEDR								High	M8(Oxidation)	Koustav10.raw	3	495.56885	1484.69199	5.44	42.13	Unambiguous	Isoform Beta-1 of	7	3.65	1	2	Q02880-2;P11388	1	0	5.58318E-05	649	MS2	40
KEWLTNFMEDR								High		Koustav10.raw	3	490.23715	1468.69690	5.38	51.75	Unambiguous	Isoform Beta-1 of	7	4.24	1	2	Q02880-2;P11388	1	0	3.22269E-06	660	MS2	40
KEWLTNFMEDR								High		Koustav10.raw	2	734.85291	1468.69853	6.49	51.88	Unambiguous	Isoform Beta-1 of	7	3.96	1	2	Q02880-2;P11388	1	0.000133	0.000525283	631	MS2	20
KEWLVGMLGAESTK								High		Koustav10.raw	3	516.94385	1548.81699	5.07	52.44	Unambiguous	Isoform Beta-1 of	4	3.69	1	1	Q02880-2	1	0	6.7847E-06	405	MS2	52
KGDLDTAAVK								High		Koustav10.raw	2	509.28412	1017.56096	3.34	17.40	Unambiguous	Isoform Beta-1 of	3	3.93	1	2	Q02880-2;B4DLV	1	0.005678	0.06879707	326	MS2	18
KLQLEETmPSPYGR								High	M8(Oxidation)	Koustav10.raw	3	555.61578	1664.83280	0.90	32.23	Unambiguous	Isoform Beta-1 of	3	3.64	1	2	Q02880-2;B4DLV	1	0	9.77008E-05	574	MS2	52
KLQLEETMPSPYGR								High		Koustav10.raw	3	550.28625	1648.84421	4.74	40.78	Unambiguous	Isoform Beta-1 of	3	2.73	1	2	Q02880-2;B4DLV	1	0.000292	0.004690968	543	MS2	52
KSPSDLWK								High		Koustav10.raw	3	320.84467	960.51944	4.68	29.74	Unambiguous	Isoform Beta-1 of	7	3.19	1	3	Q02880-2;P11388	1	0.000783	0.009451982	310	MS2	28
KSPSDLWK								High		Koustav10.raw	2	480.76431	960.52134	6.65	29.82	Unambiguous	Isoform Beta-1 of	7	2.12	1	3	Q02880-2;P11388	1	0.009766	0.1167785	240	MS2	14
KSYDDAESLK								High		Koustav10.raw	2	578.28314	1155.55901	5.33	19.20	Unambiguous	Isoform Beta-1 of	3	3.34	1	1	Q02880-2	1	0.000381	0.005410088	450	MS2	18
KVLFTcFK								High	C6(Carbamidomet	Koustav10.raw	2	521.79382	1042.58037	4.72	39.20	Unambiguous	Isoform Beta-1 of	7	2.50	1	2	Q02880-2;P11388	1	0.007376	0.09104866	222	MS2	14
KYETVQDILK								Medium		Koustav10.raw	2	618.84839	1236.68950	4.88	40.66	Unambiguous	Isoform Beta-1 of	4	3.28	1	1	Q02880-2	1	0.012089	0.1485221	191	MS2	18
KYETVQDILK								High		Koustav10.raw	3	412.90146	1236.68982	5.14	40.69	Unambiguous	Isoform Beta-1 of	4	3.40	1	1	Q02880-2	1	0	3.81252E-06	211	MS2	36
LAQAEAAGLHK								High		Koustav10.raw	3	370.21011	1108.61579	4.33	18.86	Unambiguous	Isoform Beta-1 of	3	3.64	0	1	Q02880-2	1	0	1.79967E-05	220	MS2	40
LAQAEAAGLHK								High		Koustav10.raw	2	554.81146	1108.61565	4.20	18.90	Unambiguous	Isoform Beta-1 of	3	3.91	0	1	Q02880-2	1	0	5.89296E-05	212	MS2	20
LcNIFSTK			High						C2(Carbamidomet	Koustav13.raw	2	491.75681	982.50633	3.73	40.43	Unambiguous	Isoform Beta-1 of	7	2.90	0	2	Q02880-2;P11388	1	0.000136	0.002536322	389	MS2	14
LcNIFSTK						High			C2(Carbamidomet	Koustav12.raw	2	491.75748	982.50768	5.10	40.22	Unambiguous	Isoform Beta-1 of	7	2.44	0	2	Q02880-2;P11388	1	0	0.008834921	294	MS2	14
LcNIFSTK							Medium		C2(Carbamidomet	Koustav9.raw	2	491.75742	982.50755	4.98	39.72	Unambiguous	Isoform Beta-1 of	7	2.23	0	2	Q02880-2;P11388	1	0.025618	0.2857246	275	MS2	14
LcNIFSTK								High	C2(Carbamidomet	Koustav10.raw	2	491.75681	982.50633	3.73	39.73	Unambiguous	Isoform Beta-1 of	7	2.61	0	2	Q02880-2;P11388	1	0.006061	0.07228922	386	MS2	14
LDETGVALK								High		Koustav10.raw	2	473.26791	945.52855	3.55	28.49	Unambiguous	Isoform Beta-1 of	3	2.87	0	1	Q02880-2	1	0.000292	0.002589741	347	MS2	16
LDKDIVALmTR								High	M9(Oxidation)	Koustav10.raw	3	430.90942	1290.71372	3.91	34.48	Unambiguous	Isoform Beta-1 of	3	3.53	1	1	Q02880-2	1	0.000783	0.0108028	237	MS2	40
LDKDIVALmTR								High	M9(Oxidation)	Koustav10.raw	2	645.86096	1290.71465	4.63	34.70	Unambiguous	Isoform Beta-1 of	3	3.45	1	1	Q02880-2	1	0.000292	0.004712735	203	MS2	20
LDKDIVALMTR			High							Koustav13.raw	3	425.57755	1274.71808	3.39	48.27	Unambiguous	Isoform Beta-1 of	3	3.59	1	1	Q02880-2	1	0.000136	0.000924409	176	MS2	40
LDKDIVALMTR								High		Koustav10.raw	3	425.57745	1274.71781	3.17	47.89	Unambiguous	Isoform Beta-1 of	3	3.65	1	1	Q02880-2	1	0	0.000164163	178	MS2	40
LIEVVK			Medium							Koustav13.raw	2	350.73563	700.46398	5.12	29.93	Unambiguous	Cytochrome c oxi	7	1.54	0	2	P20674;Q02880-2	1	0.031569	0.3467832	105	MS2	10
LIEVVK			High							Koustav13.raw	2	350.73572	700.46416	5.38	37.06	Selected	Cytochrome c oxi	7	1.69	0	2	P20674;Q02880-2	1	0.008009	0.09605101	104	MS2	10
LIEVVK								Medium		Koustav10.raw	2	350.73560	700.46391	5.03	29.43	Unambiguous	Cytochrome c oxi	7	1.43	0	2	P20674;Q02880-2	1	0.018773	0.2298613	98	MS2	10
LLFPAVDDNLLK					High					Koustav11.raw	2	679.39471	1357.78215	7.00	63.13	Unambiguous	Isoform Beta-1 of	3	2.77	0	1	Q02880-2	1	0	2.87022E-06	131	MS2	22
LLFPAVDDNLLK								High		Koustav10.raw	2	679.39404	1357.78081	6.01	62.81	Unambiguous	Isoform Beta-1 of	3	2.90	0	1	Q02880-2	1	0	0.000125731	143	MS2	22
LPNYDAR								High		Koustav10.raw	2	424.71881	848.43035	4.98	22.69	Unambiguous	Isoform Beta-1 of	3	1.96	0	1	Q02880-2	1	0.003985	0.05411275	225	MS2	12
LQLEETmPSPYGR								High	M7(Oxidation)	Koustav10.raw	2	768.87634	1536.74541	5.90	34.76	Unambiguous	Isoform Beta-1 of	3	4.65	0	2	Q02880-2;B4DLV	1	0	1.5898E-06	523	MS2	24
LQTTLTcNSmVLFDHmGcLK								High	C7(Carbamidomet	Koustav10.raw	3	801.04297	2401.11435	5.15	46.40	Unambiguous	Isoform Beta-1 of	3	3.53	0	1	Q02880-2	1	0	0.000196171	2023	MS2	76
LQTTLTcNSMVLFDHmGcLK								High	C7(Carbamidomet	Koustav10.raw	3	795.71143	2385.11972	5.31	52.37	Unambiguous	Isoform Beta-1 of	3	4.04	0	1	Q02880-2	1	0.000133	0.000393678	1720	MS2	76
LQTTLTcNSMVLFDHMGcLK								High	C7(Carbamidomet	Koustav10.raw	3	790.38171	2369.13059	7.78	60.92	Unambiguous	Isoform Beta-1 of	3	3.16	0	1	Q02880-2	1	0.000546	0.007206729	1378	MS2	76
LSYYGLR								High		Koustav10.raw	2	436.23947	871.47167	5.08	36.32	Unambiguous	Isoform Beta-1 of	4	1.98	0	1	Q02880-2	1	0.003128	0.04039524	201	MS2	12
mLDGLDPHPmLPNYK								High	M1(Oxidation); M	Koustav10.raw	3	591.61932	1772.84342	4.92	42.03	Unambiguous	Isoform Beta-1 of	3	2.28	0	1	Q02880-2	1	0.000292	0.001954186	909	MS2	56
MLDGLDPHPmLPNYK								High	M10(Oxidation)	Koustav10.raw	3	586.28760	1756.84824	4.82	45.83	Unambiguous	Isoform Beta-1 of	3	3.18	0	1	Q02880-2	1	0.001187	0.01545948	902	MS2	56
NKQELSFYSIPEFDEWK								High		Koustav10.raw	3	720.68646	2160.04483	7.57	63.35	Unambiguous	Isoform Beta-1 of	3	3.02	1	1	Q02880-2	1	0.001739	0.02784883	1089	MS2	64
NKQELSFYSIPEFDEWKK								High		Koustav10.raw	4	572.78955	2288.13637	5.64	57.73	Unambiguous	Isoform Beta-1 of	3	4.03	2	1	Q02880-2	1	0	0.000232276	1135	MS2	102
NTVEITELPVR								High		Koustav10.raw	2	635.85681	1270.70635	4.84	43.15	Unambiguous	Isoform Beta-1 of	3	3.59	0	1	Q02880-2	1	0	3.9319E-05	165	MS2	20
QELSFYSIPEFDEWK								High		Koustav10.raw	2	959.45569	1917.90410	7.04	67.94	Unambiguous	Isoform Beta-1 of	3	4.16	0	1	Q02880-2	1	0	1.17112E-06	768	MS2	28
QELSFYSIPEFDEWKK								High		Koustav10.raw	3	682.67108	2045.99869	6.42	62.20	Unambiguous	Isoform Beta-1 of	3	3.09	1	1	Q02880-2	1	0	0.000234676	1072	MS2	60
QImENAEINNIIK						High			M3(Oxidation)	Koustav12.raw	2	773.40680	1545.80632	7.84	42.75	Unambiguous	Isoform Beta-1 of	7	3.73	0	2	Q02880-2;P11388	1	0	0.000410015	313	MS2	24
QImENAEINNIIK								High	M3(Oxidation)	Koustav10.raw	2	773.40417	1545.80107	4.45	42.40	Unambiguous	Isoform Beta-1 of	7	4.04	0	2	Q02880-2;P11388	1	0	4.64956E-06	322	MS2	24
QImENAEINNIIK								High	M3(Oxidation)	Koustav10.raw	3	515.93854	1545.80106	4.44	42.44	Unambiguous	Isoform Beta-1 of	7	4.79	0	2	Q02880-2;P11388	1	0	4.38703E-06	420	MS2	48
QIMENAEINNIIK								High		Koustav10.raw	2	765.40405	1529.80083	1.01	47.80	Unambiguous	Isoform Beta-1 of	7	4.38	0	2	Q02880-2;P11388	1	0	1.1823E-06	314	MS2	24
QTWmNNmmK								Medium	M4(Oxidation); M	Koustav10.raw	2	616.25238	1231.49748	5.67	15.28	Unambiguous	Isoform Beta-1 of	3	2.03	0	1	Q02880-2	1	0.013318	0.1655643	286	MS2	16
RAYDLAGScR								Medium	C9(Carbamidomet	Koustav10.raw	2	584.78284	1168.55840	4.78	20.44	Unambiguous	Isoform Beta-1 of	3	2.90	1	1	Q02880-2	1	0.019381	0.2363642	529	MS2	18
RIIPEITAmK								High	M9(Oxidation)	Koustav10.raw	3	396.56766	1187.68842	5.64	33.95	Unambiguous	Isoform Beta-1 of	3	3.23	1	2	Q02880-2;B4DLV	1	0.000292	0.001622788	184	MS2	36
RIIPEITAMK								High		Koustav10.raw	3	391.23654	1171.69507	7.05	41.23	Unambiguous	Isoform Beta-1 of	3	3.25	1	2	Q02880-2;B4DLV	1	0.000292	0.002596054	113	MS2	36
RLHGLPEQFLYGTATK								High		Koustav10.raw	3	611.00323	1830.99515	4.91	45.59	Unambiguous	Isoform Beta-1 of	3	5.59	1	1	Q02880-2	1	0	3.63036E-06	250	MS2	60
SIPSLVDGFKPGQR								High		Koustav10.raw	2	750.91571	1500.82414	4.77	46.19	Unambiguous	Isoform Beta-1 of	3	3.53	0	1	Q02880-2	1	0.000133	0.000493334	183	MS2	26
SPSDLWK								High		Koustav10.raw	2	416.71581	832.42435	5.25	33.51	Unambiguous	Isoform Beta-1 of	7	2.46	0	3	Q02880-2;P11388	1	0.00306	0.03900887	204	MS2	12
SQDFGNLFSFPSYSQK			High							Koustav13.raw	2	926.43610	1851.86492	5.43	62.03	Unambiguous	Isoform Beta-1 of	3	5.97	0	2	Q02880-2;B4DLV	1	0	8.42692E-08	952	MS2	30
SQDFGNLFSFPSYSQK								High		Koustav10.raw	3	617.96173	1851.87064	8.52	62.62	Unambiguous	Isoform Beta-1 of	3	4.12	0	2	Q02880-2;B4DLV	1	0.000133	0.000357247	1082	MS2	60
SYDDAESLK								High		Koustav10.raw	2	514.23456	1027.46184	3.85	22.87	Unambiguous	Isoform Beta-1 of	3	3.11	0	1	Q02880-2	1	0	0.000282263	345	MS2	16
SYVDLYVK			High							Koustav13.raw	2	493.76657	986.52587	6.61	40.75	Unambiguous	Isoform Beta-1 of	3	2.13	0	1	Q02880-2	1	0.00542	0.06325264	218	MS2	14
SYVDLYVK								High		Koustav10.raw	2	493.76550	986.52373	4.45	40.17	Unambiguous	Isoform Beta-1 of	3	2.65	0	1	Q02880-2	1	0.000292	0.002781426	221	MS2	14

TPALISDYK				High		Koustav10.raw	2	504.27603	1007.54479	3.94	34.95	Unambiguous	Isoform Beta-1 of	3	3.47	0	1	Q02880-2	1	0.000241	0.001125244	224	MS2	16
TPALISDYKEYHTDTTVK				High		Koustav10.raw	3	694.68793	2082.04923	4.90	37.05	Unambiguous	Isoform Beta-1 of	3	4.18	1	1	Q02880-2	1	0	6.01871E-07	817	MS2	68
TWTQVYK				Medium		Koustav10.raw	2	463.24435	925.48142	3.90	30.99	Unambiguous	Isoform Beta-1 of	3	2.02	0	1	Q02880-2	1	0.014272	0.1782489	435	MS2	12
VIHELANER	High					Koustav16.raw	3	360.86707	1080.58664	6.44	19.67	Unambiguous	Isoform Beta-1 of	3	2.96	0	1	Q02880-2	1	0.000529	0.009874636	293	MS2	32
VIHELANER				High		Koustav10.raw	3	360.86624	1080.58417	4.15	19.37	Unambiguous	Isoform Beta-1 of	3	3.00	0	1	Q02880-2	1	0	0.000120842	296	MS2	32
VIHELANER				High		Koustav10.raw	2	540.79523	1080.58318	3.24	19.41	Unambiguous	Isoform Beta-1 of	3	2.81	0	1	Q02880-2	1	0.000292	0.001973292	277	MS2	16
VLFTcFK				Medium	C5(Carbamidomet	Koustav10.raw	2	457.74637	914.48546	5.45	45.53	Unambiguous	Isoform Beta-1 of	7	1.71	0	2	Q02880-2;P1138	1	0.025164	0.2968945	155	MS2	12
VSIDPESNIISIWNNGK				High		Koustav10.raw	2	943.49341	1885.97954	7.44	62.98	Unambiguous	Isoform Beta-1 of	3	5.45	0	1	Q02880-2	1	0	1.4007E-07	356	MS2	32
VSIDPESNIISIWNNGK				High		Koustav10.raw	3	629.33087	1885.97806	6.66	63.10	Unambiguous	Isoform Beta-1 of	3	4.39	0	1	Q02880-2	1	0.000292	0.001459657	464	MS2	64
VYVPALIFGQLLTSSNYDDDEKK				High		Koustav10.raw	3	872.45093	2615.33823	5.43	72.77	Unambiguous	Isoform Beta-1 of	3	1.84	1	1	Q02880-2	1	0	4.78276E-06	567	MS2	88
YAGPEDDAAITLAFSK		High				Koustav11.raw	2	834.91382	1668.82036	5.24	52.37	Unambiguous	Isoform Beta-1 of	3	3.50	0	1	Q02880-2	1	0	5.30864E-08	615	MS2	30
YAGPEDDAAITLAFSK				High		Koustav10.raw	2	834.91357	1668.81987	4.94	51.93	Unambiguous	Isoform Beta-1 of	3	6.04	0	1	Q02880-2	1	0	1.14137E-07	611	MS2	30
YAGPEDDAAITLAFSK				High		Koustav10.raw	3	556.94507	1668.82065	5.41	52.05	Unambiguous	Isoform Beta-1 of	3	3.79	0	1	Q02880-2	1	0	5.88193E-05	810	MS2	60
YETVQDILK				High		Koustav10.raw	2	554.80048	1108.59368	4.67	45.54	Unambiguous	Isoform Beta-1 of	4	3.03	0	1	Q02880-2	1	0.000292	0.004304536	268	MS2	16
YGVFPLR				High		Koustav10.raw	2	426.24435	851.48143	4.70	45.56	Unambiguous	Isoform Beta-1 of	7	2.30	0	2	Q02880-2;P1138	1	0.000936	0.01378671	185	MS2	12
YGVFPLR				High		Koustav10.raw	2	426.24411	851.48094	4.12	46.06	Unambiguous	Isoform Beta-1 of	7	2.28	0	2	Q02880-2;P1138	1	0.001301	0.01925877	168	MS2	12
YIFTmLSTLAR				High	M5(Oxidation)	Koustav10.raw	2	666.35846	1331.70964	5.11	55.37	Unambiguous	Isoform Beta-1 of	3	3.97	0	1	Q02880-2	1	0	0.000285482	327	MS2	20
YIFTmLSTLAR				High	M5(Oxidation)	Koustav10.raw	2	666.35864	1331.71001	5.39	55.94	Unambiguous	Isoform Beta-1 of	3	3.77	0	1	Q02880-2	1	0	1.96081E-05	322	MS2	20
YIFTMLSTLAR			High			Koustav12.raw	2	658.36267	1315.71807	7.71	66.29	Unambiguous	Isoform Beta-1 of	3	3.10	0	1	Q02880-2	1	0.000905	0.01977624	292	MS2	20
YIFTMLSTLAR				High		Koustav10.raw	2	658.36169	1315.71611	6.23	66.83	Unambiguous	Isoform Beta-1 of	3	3.51	0	1	Q02880-2	1	0.000783	0.0104029	296	MS2	20

PCR Array Catalog #:	**Qiagen**	**PAHS-025Y**			
Position	**Unigene**	**Refseq**	**Symbol**	**Description**	**Gname**
A01	Hs.19383	NM_000029	AGT	Angiotensinogen (serpin peptidase inhibitor, clade A	ANHU/SERPINA8
A02	Hs.525622	NM_005163	AKT1	V-akt murine thymoma viral oncogene homolog 1	AKT/CWS6/PKB/PKB-ALPHA/PRKBA/RAC/RAC-ALPHA
A03	Hs.648565	NM_005171	ATF1	Activating transcription factor 1	EWS-ATF1/FUS/ATF-1/TREB36
A04	Hs.227817	NM_004049	BCL2A1	BCL2-related protein A1	ACC-1/ACC-2/ACC1/ACC2/BCL2L5/BFL1/GRS/HBPA1
A05	Hs.516966	NM_138578	BCL2L1	BCL2-like 1	BCL-XL/S/BCL2L/BCLX/BCLXL/BCLXS/Bcl-X/PPP1R52/bcl-xL/bcl-xS
A06	Hs.31210	NM_005178	BCL3	B-cell CLL/lymphoma 3	BCL4/D19S37
A07	Hs.696238	NM_001166	BIRC2	Baculoviral IAP repeat containing 2	API1/HIAP2/Hiap-2/MIHB/RNF48/c-IAP1/cIAP1
A08	Hs.648101	NM_032415	CARD11	Caspase recruitment domain family, member 11	BENTA/BIMP3/CARMA1/IMD11/PPBL
A09	Hs.2490	NM_033292	CASP1	Caspase 1, apoptosis-related cysteine peptidase (i	ICE/IL1BC/P45
A10	Hs.599762	NM_001228	CASP8	Caspase 8, apoptosis-related cysteine peptidase	ALPS2B/CAP4/Casp-8/FLICE/MACH/MCH5
A11	Hs.303649	NM_002982	CCL2	Chemokine (C-C motif) ligand 2	GDCF-2/HC11/HSMCR30/MCAF/MCP-1/MCP1/SCYA2/SMC-CF
A12	Hs.514821	NM_002985	CCL5	Chemokine (C-C motif) ligand 5	D17S136E/RANTES/SCYA5/SIS-delta/SISd/TCP228/eoCP
B01	Hs.472860	NM_001250	CD40	CD40 molecule, TNF receptor superfamily member	Bp50/CDW40/TNFRSF5/p50
B02	Hs.390736	NM_003879	CFLAR	CASP8 and FADD-like apoptosis regulator	CASH/CASP8AP1/CLARP/Casper/FLAME/FLAME-1/FLAME1/FLIP/I-FLICE/MRIT/c-FLIP/c-FLIPL/c-FLIPR/c-
B03	Hs.198998	NM_001278	CHUK	Conserved helix-loop-helix ubiquitous kinase	IKBKA/IKK-alpha/IKK1/IKKA/NFKBIKA/TCF16
B04	Hs.173894	NM_000757	CSF1	Colony stimulating factor 1 (macrophage)	CSF-1/MCSF
B05	Hs.1349	NM_000758	CSF2	Colony stimulating factor 2 (granulocyte-macrophag	GMCSF
B06	Hs.2233	NM_000759	CSF3	Colony stimulating factor 3 (granulocyte)	C17orf33/CSF3OS/GCSF
B07	Hs.488293	NM_005228	EGFR	Epidermal growth factor receptor	ERBB/ERBB1/HER1/NISBD2/PIG61/mENA
B08	Hs.326035	NM_001964	EGR1	Early growth response 1	AT225/G0S30/KROX-24/NGFI-A/TIS8/ZIF-268/ZNF225
B09	Hs.181128	NM_005229	ELK1	ELK1, member of ETS oncogene family	-
B10	Hs.86131	NM_003824	FADD	Fas (TNFRSF6)-associated via death domain	GIG3/MORT1
B11	Hs.2007	NM_000639	FASLG	Fas ligand (TNF superfamily, member 6)	ALPS1B/APT1LG1/APTL/CD178/CD95-L/CD95L/FASL/TNFSF6
B12	Hs.25647	NM_005252	FOS	FBJ murine osteosarcoma viral oncogene homolog	AP-1/C-FOS/p55
C01	Hs.727017	NM_002133	HMOX1	Heme oxygenase (decycling) 1	HMOX1D/HO-1/HSP32/bK286B10
C02	Hs.37026	NM_024013	IFNA1	Interferon, alpha 1	IFL/IFN/IFN-ALPHA/IFN-alphaD/IFNA13/IFNA@
C03	Hs.856	NM_000619	IFNG	Interferon, gamma	IFG/IFI
C04	Hs.597664	NM_001556	IKBKB	Inhibitor of kappa light polypeptide gene enhancer i	IKK-beta/IKK2/IKKB/IMD15/NFKBIKB
C05	Hs.43505	NM_003639	IKBKG	Inhibitor of kappa light polypeptide gene enhancer i	AMCBX1/FIP-3/FIP3/Fip3p/IKK-gamma/IMD33/IP/IP1/IP2/IPD2/NEMO/ZC2HC9
C06	Hs.193717	NM_000572	IL10	Interleukin 10	CSIF/GVHDS/IL-10/IL10A/TGIF
C07	Hs.1722	NM_000575	IL1A	Interleukin 1, alpha	IL-1A/IL1/IL1-ALPHA/IL1F1
C08	Hs.126256	NM_000576	IL1B	Interleukin 1, beta	IL-1/IL1-BETA/IL1F2
C09	Hs.701982	NM_000877	IL1R1	Interleukin 1 receptor, type I	CD121A/D2S1473/IL-1R-alpha/IL1R/IL1RA/P80
C10	Hs.522819	NM_001569	IRAK1	Interleukin-1 receptor-associated kinase 1	IRAK/pelle
C11	Hs.449207	NM_001570	IRAK2	Interleukin-1 receptor-associated kinase 2	IRAK-2
C12	Hs.696684	NM_002228	JUN	Jun proto-oncogene	AP-1/AP1/c-Jun
D01	Hs.36	NM_000595	LTA	Lymphotoxin alpha (TNF superfamily, member 1)	LT/TNFB/TNFSF1
D02	Hs.1116	NM_002342	LTBR	Lymphotoxin beta receptor (TNFR superfamily, me	CD18/D12S370/LT-BETA-R/TNF-R-III/TNFCR/TNFR-RP/TNFR2-RP/TNFR3/TNFRSF3
D03	Hs.601217	NM_173844	MALT1	Mucosa associated lymphoid tissue lymphoma tran	IMD12/MLT/MLT1
D04	Hs.653654	NM_005921	MAP3K1	Mitogen-activated protein kinase kinase kinase 1	MAPKKK1/MEKK/MEKK 1/MEKK1/SRXY6
D05	Hs.82116	NM_002468	MYD88	Myeloid differentiation primary response gene (88)	MYD88D
D06	Hs.73090	NM_002502	NFKB2	Nuclear factor of kappa light polypeptide gene enha	CVID10/H2TF1/LYT-10/LYT10/NF-kB2/p100/p52
D07	Hs.738731	NM_006092	NOD1	Nucleotide-binding oligomerization domain containi	CARD4/CLR7.1/NLRC1
D08	Hs.658434	NM_021144	PSIP1	PC4 and SFRS1 interacting protein 1	DFS70/LEDGF/PAIP/PSIP2/p52/p75
D09	Hs.159130	NM_002880	RAF1	V-raf-1 murine leukemia viral oncogene homolog 1	CMD1NN/CRAF/NS5/Raf-1/c-Raf
D10	Hs.633256	NM_002908	REL	V-rel reticuloendotheliosis viral oncogene homolog (	C-Rel
D11	Hs.502875	NM_021975	RELA	V-rel reticuloendotheliosis viral oncogene homolog	NFKB3/p65
D12	Hs.654402	NM_006509	RELB	V-rel reticuloendotheliosis viral oncogene homolog	I-REL/IREL/REL-B
E01	Hs.247077	NM_001664	RHOA	Ras homolog gene family, member A	ARH12/ARHA/RHO12/RHOH12
E02	Hs.519842	NM_003804	RIPK1	Receptor (TNFRSF)-interacting serine-threonine ki	RIP/RIP1
E03	Hs.642990	NM_007315	STAT1	Signal transducer and activator of transcription 1, 9	CANDF7/IMD31A/IMD31B/IMD31C/ISGF-3/STAT91
E04	Hs.505874	NM_013254	TBK1	TANK-binding kinase 1	NAK/T2K
E05	Hs.29344	NM_182919	TICAM1	Toll-like receptor adaptor molecule 1	IIAE6/MyD88-3/PRVTIRB/TICAM-1/TRIF
E06	Hs.522632	NM_003254	TIMP1	TIMP metallopeptidase inhibitor 1	CLGI/EPA/EPO/HCI/TIMP
E07	Hs.654532	NM_003263	TLR1	Toll-like receptor 1	CD281/TIL/TIL. LPRS5/rsc786
E08	Hs.519033	NM_003264	TLR2	Toll-like receptor 2	CD282/TIL4
E09	Hs.657724	NM_003265	TLR3	Toll-like receptor 3	CD283/IIAE2
E10	Hs.174312	NM_138554	TLR4	Toll-like receptor 4	ARMD10/CD284/TLR-4/TOLL
E11	Hs.575090	NM_006068	TLR6	Toll-like receptor 6	CD286
E12	Hs.87968	NM_017442	TLR9	Toll-like receptor 9	CD289
F01	Hs.591834	NM_003844	TNFRSF10A	Tumor necrosis factor receptor superfamily, memb	APO2/CD261/DR4/TRAILR-1/TRAILR1
F02	Hs.661668	NM_003842	TNFRSF10B	Tumor necrosis factor receptor superfamily, memb	CD262/DR5/KILLER/KILLER/DR5/TRAIL-R2/TRAILR2/TRICK2/TRICK2A/TRICK2B/TRICKB/ZTNFR9
F03	Hs.713833	NM_001065	TNFRSF1A	Tumor necrosis factor receptor superfamily, memb	CD120a/FPF/MS5/TBP1/TNF-R/TNF-R-I/TNF-R55/TNFAR/TNFR1/TNFR1-d2/TNFR55/TNFR60/p55/p55-R/
F04	Hs.478275	NM_003810	TNFSF10	Tumor necrosis factor (ligand) superfamily, membe	APO2L/Apo-2L/CD253/TL2/TRAIL
F05	Hs.460996	NM_003789	TRADD	TNFRSF1A-associated via death domain	Hs.89862
F06	Hs.522506	NM_021138	TRAF2	TNF receptor-associated factor 2	MGC:45012/TRAP/TRAP3
F07	Hs.510528	NM_003300	TRAF3	TNF receptor-associated factor 3	CAP-1/CAP1/CD40bp/CRAF1/IIAE5/LAP1
F08	Hs.591983	NM_004620	TRAF6	TNF receptor-associated factor 6	MGC:3310/RNF85
F09	Hs.127799	NM_001165	BIRC3	Baculoviral IAP repeat containing 3	AIP1/API2/CIAP2/HAIP1/HIAP1/MALT2/MIHC/RNF49/c-IAP2
F10	Hs.75498	NM_004591	CCL20	Chemokine (C-C motif) ligand 20	CKb4/Exodus/LARC/MIP-3-alpha/MIP-3a/MIP3A/SCYA20/ST38
F11	Hs.595133	NM_004233	CD83	CD83 molecule	BL11/HB15
F12	Hs.75765	NM_002089	CXCL2	Chemokine (C-X-C motif) ligand 2	CINC-2a/GRO2/GROb/MGSA-b/MIP-2a/MIP2/MIP2A/SCYB2
G01	Hs.89690	NM_002090	CXCL3	Chemokine (C-X-C motif) ligand 3	CINC-2b/GRO3/GROg/MIP-2b/MIP2B/SCYB3
G02	Hs.643447	NM_000201	ICAM1	Intercellular adhesion molecule 1	BB2/CD54/P3.58
G03	Hs.624	NM_000584	CXCL8	Interleukin 8	GCP-1/GCP1/IL8/LECT/LUCT/LYNAP/MDNCF/MONAP/NAF/NAP-1/NAP1
G04	Hs.436061	NM_002198	IRF1	Interferon regulatory factor 1	IRF-1/MAR
G05	Hs.618430	NM_003998	NFKB1	Nuclear factor of kappa light polypeptide gene enha	EBP-1/KBF1/NF-kB1/NF-kappa-B/NF-kappaB/NFKB-p105/NFKB-p50/NFkappaB/p105/p50
G06	Hs.81328	NM_020529	NFKBIA	Nuclear factor of kappa light polypeptide gene enha	IKBA/MAD-3/NFKBI
G07	Hs.458276	NM_004556	NFKBIE	Nuclear factor of kappa light polypeptide gene enha	IKBE
G08	Hs.118958	NM_003764	STX11	Syntaxin 11	FHL4/HLH4/HPLH4
G09	Hs.310640	NM_052864	TIFA	TRAF-interacting protein with forkhead-associated (	T2BP/T6BP/TIFAA
G10	Hs.241570	NM_000594	TNF	Tumor necrosis factor	DIF/TNF-alpha/TNFA/TNFSF2
G11	Hs.525607	NM_006291	TNFAIP2	Tumor necrosis factor, alpha-induced protein 2	B94/EXOC3L3
G12	Hs.211600	NM_006290	TNFAIP3	Tumor necrosis factor, alpha-induced protein 3	A20/OTUD7C/TNFA1P2
control genes					
H01	Hs.520640	NM_001101	ACTB	Actin, beta	BRWS1/PS1TP5BP1
H02	Hs.546285	NM_001002	RPLP0	Ribosomal protein, large, P0	L10E/LP0/P0/PRLP0/RPP0

FLIPS

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		Up-Down Regulation (comparing to control group: WAS Th1 cells; untransfected)			
		roup 1 (WAS Th1; wt-WASp transfecte		roup 2 (WAS Th1; RNaseH1 transfected	
		Fold Regulation	**Comments**	**Fold Regulation**	**Comments**
A01	AGT	96.687	A	70.2779	A
A02	AKT1	23.9798		22.8227	
A03	ATF1	34.2148		21.8885	
A04	BCL2A1	47.5393		38.245	
A05	BCL2L1	-1.1013		-1.7589	
A06	BCL3	14.0194		10.8521	
A07	BIRC2	26.2264		14.998	
A08	CARD11	9.8468		8.6231	
A09	CASP1	92.8835		57.6081	
A10	CASP8	13.0697		9.8485	
A11	CCL2	-1.4907		-17.5366	
A12	CCL5	3.2151		2.5394	
B01	CD40	3.2523		2.3953	
B02	CFLAR	4.9814		5.0312	
B03	CHUK	26.241		17.8704	
B04	CSF1	4.3962		2.9506	
B05	CSF2	-51.9824		-77.1396	
B06	CSF3	1993.8622	A	30.19	A
B07	EGFR	63.2218	A	64.2712	A
B08	EGR1	2.2583		-1.0898	
B09	ELK1	10.1877		4.9157	
B10	FADD	34.5724		22.4229	
B11	FASLG	1157.6232	A	812.1486	A
B12	FOS	29.0779	A	20.9576	A
C01	HMOX1	55.5668	A	43.0965	A
C02	IFNA1	319.318	A	200.0477	A
C03	IFNG	66.6831		50.0258	
C04	IKBKB	4.1654		3.6933	
C05	IKBKG	4.1409		2.7123	
C06	IL10	176.5643	A	158.9798	A
C07	IL1A	1.6785		1.4464	
C08	IL1B	9.2404		4.9509	
C09	IL1R1	66.8729	A	56.9293	A
C10	IRAK1	9.3544		7.3773	
C11	IRAK2	8.6984		7.4071	
C12	JUN	5.257		2.7566	
D01	LTA	3.0023		1.9592	
D02	LTBR	13.6285		11.0678	
D03	MALT1	91.8845		66.6947	
D04	MAP3K1	61.0809	A	29.3645	A
D05	MYD88	23.8538		13.6876	
D06	NFKB2	3.2566		2.8499	
D07	NOD1	21.4789		16.2864	
D08	PSIP1	28.6358		21.9067	
D09	RAF1	6.6587		5.0037	
D10	REL	5.6889		5.0169	
D11	RELA	7.8112		5.8417	
D12	RELB	25.7099		15.1737	
E01	RHOA	24.3078		14.2126	
E02	RIPK1	9.0678		4.2416	

E03	STAT1	25.0207		18.561	
E04	TBK1	10.2188		6.3577	
E05	TICAM1	3.8929		3.5751	
E06	TIMP1	9.2352		2.5971	
E07	TLR1	274.2884	A	37.0192	A
E08	TLR2	90.1247	A	52.0238	A
E09	TLR3	11.604		5.8434	
E10	TLR4	6.8227		3.7239	
E11	TLR6	80.4963	A	51.5679	A
E12	TLR9	8.7201		6.3392	
F01	TNFRSF10A	2.8429		2.7031	
F02	TNFRSF10B	1.1033		-1.4955	
F03	TNFRSF1A	12.4343		8.8864	
F04	TNFSF10	2.226		2.1007	
F05	TRADD	19.4628		8.5203	
F06	TRAF2	2.3713		2.2138	
F07	TRAF3	5.0861		3.6095	
F08	TRAF6	5.8834		4.8544	
F09	BIRC3	2.5369		1.8274	
F10	CCL20	1.7494		1.7066	
F11	CD83	-1.8208		-2.6029	
F12	CXCL2	2.0126		1.1872	
G01	CXCL3	43.2537	A	22.231	A
G02	ICAM1	-3.5046		-3.5643	
G03	CXCL8	1.9341		1.6475	
G04	IRF1	2.5918		2.2856	
G05	NFKB1	2.9954		2.0922	
G06	NFKBIA	1.0739		-1.1787	
G07	NFKBIE	7.7761		6.5428	
G08	STX11	10.1869		6.7885	
G09	TIFA	76.3126		34.7779	
G10	TNF	1.5032		1.1242	
G11	TNFAIP2	-17.9716		-21.769	
G12	TNFAIP3	1.9326		1.4901	
control genes					
H01	ACTB	1.6923		1.7671	
H02	RPLP0	-1.6923		-1.7671	

Comments:

A: This geneï¿½s average threshold cycle is relatively high (> 30) in either the control or the test sample, and is reasonably low in the other sample (< 30).

These data mean that the geneï¿½s expression is relatively low in one sample and reasonably detected in the other sample suggesting that the actual fold-change value is at least as large as the calculated and reported fold-change result.

This fold-change result may also have greater variations if p value > 0.05; therefore, it is important to have a sufficient number of biological replicates to validate the result for this gene.

B: This geneï¿½s average threshold cycle is relatively high (> 30), meaning that its relative expression level is low, in both control and test samples, and the p-value for the fold-change is either unavailable or relatively high (p > 0.05).

This fold-change result may also have greater variations; therefore, it is important to have a sufficient number of biological replicates to validate the result for this gene.

C: This geneï¿½s average threshold cycle is either not determined or greater than the defined cut-off value (default 35), in both samples meaning that its expression was undetected, making this fold-change result erroneous and un-interpretable.

Fold Change & Fold Regulation:

Fold-Change (2^(- Delta Delta Ct)) is the normalized gene expression (2^(- Delta Ct)) in the Test Sample divided the normalized gene expression (2^(- Delta Ct)) in the Control Sample.

Fold-Regulation represents fold-change results in a biologically meaningful way. Fold-change values greater than one indicate a positive- or an up-regulation, and the fold-regulation is equal to the fold-change.

Fold-change values less than one indicate a negative or down-regulation, and the fold-regulation is the negative inverse of the fold-change.

Fold-change and fold-regulation values greater than 2 are indicated in red; fold-change values less than 0.5 and fold-regulation values less than -2 are indicated in blue.

		Up-Down Regulation (comparing to control group: Normal Th1 cells)					
		Group 1 (WAS Th1, untransfected)		roup 2 (WAS Th1, wt-WASp transfecte		roup 3 (WAS Th1, RNaseH1 transfecte	
		Fold Regulation	**Comments**	**Fold Regulation**	**Comments**	**Fold Regulation**	**Comments**
A01	AGT	-211.6079	A	-2.1886		-3.011	
A02	AKT1	-60.286		-2.514		-2.6415	
A03	ATF1	-69.8675		-2.042		-3.192	
A04	BCL2A1	-59.7576		-1.257		-1.5625	
A05	BCL2L1	-1.9463		-2.1435		-3.4234	
A06	BCL3	-31.1109		-2.2191		-2.8668	
A07	BIRC2	-56.6086		-2.1585		-3.7744	
A08	CARD11	-21.2538		-2.1585		-2.4648	
A09	CASP1	-161.7195		-1.7411		-2.8072	
A10	CASP8	-26.3211		-2.0139		-2.6726	
A11	CCL2	-1.2605		-1.879		-22.1058	
A12	CCL5	-7.5415		-2.3457		-2.9698	
B01	CD40	-4.4427		-1.366		-1.8548	
B02	CFLAR	-7.709		-1.5476		-1.5322	
B03	CHUK	-49.9963		-1.9053		-2.7977	
B04	CSF1	-2.094		2.0994		1.4091	
B05	CSF2	23.9168		-2.1735		-3.2253	
B06	CSF3	-4244.415	A	-2.1287		-140.59	
B07	EGFR	-112.3885	A	-1.7777		-1.7487	
B08	EGR1	-3.7199		-1.6472		-4.054	
B09	ELK1	-16.665		-1.6358		-3.3902	
B10	FADD	-66.7895		-1.9319		-2.9786	
B11	FASLG	-1987.7905	A	-1.7171		-2.4476	
B12	FOS	-44.6891	A	-1.5369		-2.1324	
C01	HMOX1	-84.2234	A	-1.5157		-1.9543	
C02	IFNA1	-738.7027	A	-2.3134		-3.6926	
C03	IFNG	-103.1965		-1.5476		-2.0629	
C04	IKBKB	-6.3575		-1.5263		-1.7214	
C05	IKBKG	-6.9161		-1.6702		-2.5499	
C06	IL10	-286.8296	A	-1.6245		-1.8042	
C07	IL1A	-3.3338		-1.9862		-2.3048	
C08	IL1B	-19.0003		-2.0562		-3.8377	
C09	IL1R1	-103.4902	A	-1.5476		-1.8179	
C10	IRAK1	-12.7785		-1.366		-1.7321	
C11	IRAK2	-19.9837		-2.2974		-2.6979	
C12	JUN	-8.9647		-1.7053		-3.2521	
D01	LTA	-6.2595		-2.0849		-3.1949	
D02	LTBR	-20.5142		-1.5052		-1.8535	
D03	MALT1	-195.5983		-2.1287		-2.9327	
D04	MAP3K1	-92.5814	A	-1.5157		-3.1528	
D05	MYD88	-54.4232		-2.2815		-3.9761	
D06	NFKB2	-5.0748		-1.5583		-1.7807	
D07	NOD1	-30.7998		-1.434		-1.8911	
D08	PSIP1	-48.1595		-1.6818		-2.1984	
D09	RAF1	-10.0928		-1.5157		-2.0171	
D10	REL	-9.7011		-1.7053		-1.9337	
D11	RELA	-11.7578		-1.5052		-2.0127	
D12	RELB	-35.8587		-1.3947		-2.3632	
E01	RHOA	-48.9538		-2.0139		-3.4444	
E02	RIPK1	-13.0932		-1.4439		-3.0869	
E03	STAT1	-48.673		-1.9453		-2.6223	
E04	TBK1	-18.6765		-1.8277		-2.9376	
E05	TICAM1	-6.4123		-1.6472		-1.7936	
E06	TIMP1	-15.2121		-1.6472		-5.8574	
E07	TLR1	-418.6353	A	-1.5263		-11.3086	
E08	TLR2	-126.5751	A	-1.4044		-2.433	
E09	TLR3	-18.2086		-1.5692		-3.1161	
E10	TLR4	-10.4857		-1.5369		-2.8158	

E11	TLR6	-123.7127	A	-1.5369		-2.399	
E12	TLR9	-12.2469		-1.4044		-1.9319	
F01	TNFRSF10A	-3.83		-1.3472		-1.4169	
F02	TNFRSF10B	-1.8174		-1.6472		-2.7178	
F03	TNFRSF1A	-22.1042		-1.7777		-2.4874	
F04	TNFSF10	-2.9576		-1.3287		-1.4079	
F05	TRADD	-29.2964		-1.5052		-3.4384	
F06	TRAF2	-3.5693		-1.5052		-1.6123	
F07	TRAF3	-7.4464		-1.4641		-2.063	
F08	TRAF6	-8.9176		-1.5157		-1.837	
F09	BIRC3	-4.8001		-1.8921		-2.6267	
F10	CCL20	-2.8028		-1.6021		-1.6423	
F11	CD83	1.0385		-1.7532		-2.5063	
F12	CXCL2	-3.1146		-1.5476		-2.6234	
G01	CXCL3	-76.8914	A	-1.7777		-3.4587	
G02	ICAM1	1.9175		-1.8277		-1.8588	
G03	CXCL8	-3.5842		-1.8532		-2.1755	
G04	IRF1	-4.2692		-1.6472		-1.8678	
G05	NFKB1	-5.0028		-1.6702		-2.3912	
G06	NFKBIA	-1.7936		-1.6702		-2.1141	
G07	NFKBIE	-12.8978		-1.6586		-1.9713	
G08	STX11	-14.5067		-1.4241		-2.1369	
G09	TIFA	-98.6228		-1.2924		-2.8358	
G10	TNF	-2.4761		-1.6472		-2.2025	
G11	TNFAIP2	9.9704		-1.8025		-2.1834	
G12	TNFAIP3	-3.2055		-1.6586		-2.1512	

control genes

H01	ACTB	-1.0203		1.6586		1.732	
H02	RPLP0	1.0203		-1.6586		-1.732	

Comments:

A: This geneï¿½s average threshold cycle is relatively high (> 30) in either the control or the test sample, and is reasonably low in the other sample (< 30).
These data mean that the geneï¿½s expression is relatively low in one sample and reasonably detected in the other sample suggesting that the actual fold-change value is at least as large as the calculated and reported fold-change result.
This fold-change result may also have greater variations if p value > 0.05; therefore, it is important to have a sufficient number of biological replicates to validate the result for this gene.

B: This geneï¿½s average threshold cycle is relatively high (> 30), meaning that its relative expression level is low, in both control and test samples, and the p-value for the fold-change is either unavailable or relatively high (p > 0.05).
This fold-change result may also have greater variations; therefore, it is important to have a sufficient number of biological replicates to validate the result for this gene.

C: This geneï¿½s average threshold cycle is either not determined or greater than the defined cut-off value (default 35), in both samples meaning that its expression was undetected, making this fold-change result erroneous and un-interpretable.

Fold Change & Fold Regulation:

Fold-Change (2^(- Delta Delta Ct)) is the normalized gene expression (2^(- Delta Ct)) in the Test Sample divided the normalized gene expression (2^(- Delta Ct)) in the Control Sample.

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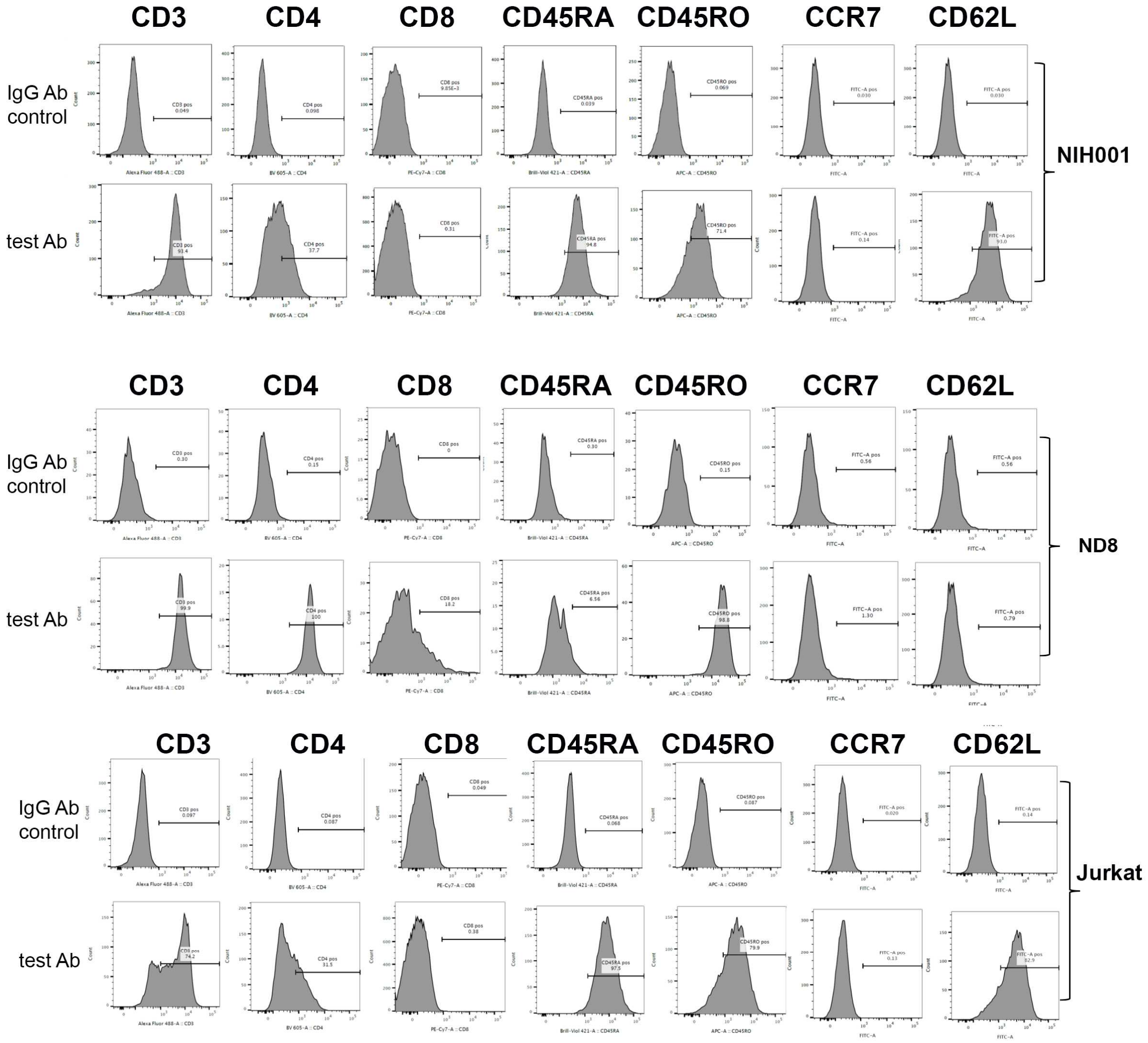
Fold-change values less than one indicate a negative or down-regulation, and the fold-regulation is the negative inverse of the fold-change.

Fold-change and fold-regulation values greater than 2 are indicated in red; fold-change values less than 0.5 and fold-regulation values less than -2 are indicated in blue.

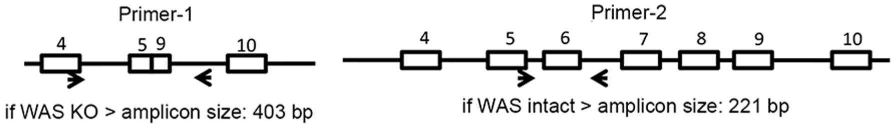
Supplementary Figure 1



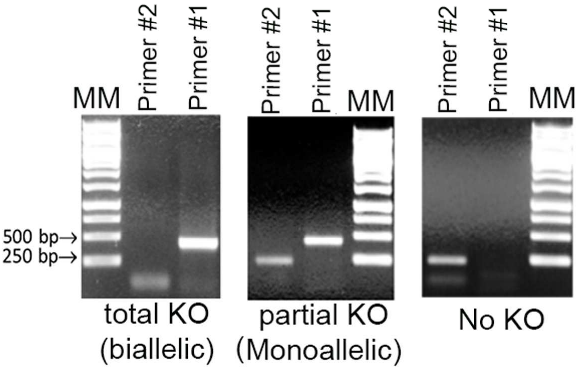
	CD3	CD4	CD8	CD45RA	CD45RO	CCR7	CD62L	*Th subtype*
NIH001	+	+	-	+	+	-	+	**Effector cell** (not naïve or central memory cell)
Milan008	+	+	-	-	+	-	-	**Effector memory cell** (not naïve or central memory cell)
Jurkat	+	+	-	+	+	-	+	**Effector cell** (not naïve or central memory cell)

Generation of CRISPR/Cas9-mediated WAS KO Th cell line (NIH001)

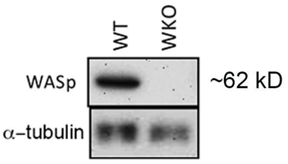
A Designing guide RNAs



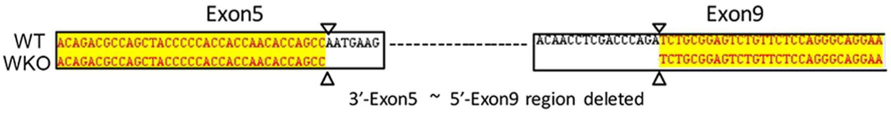
B Screening WAS KO clones by PCR



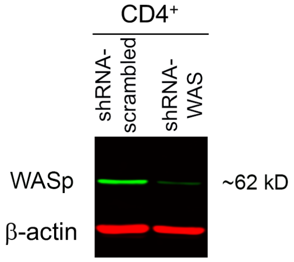
C Verifying WASp depletion by Western blot



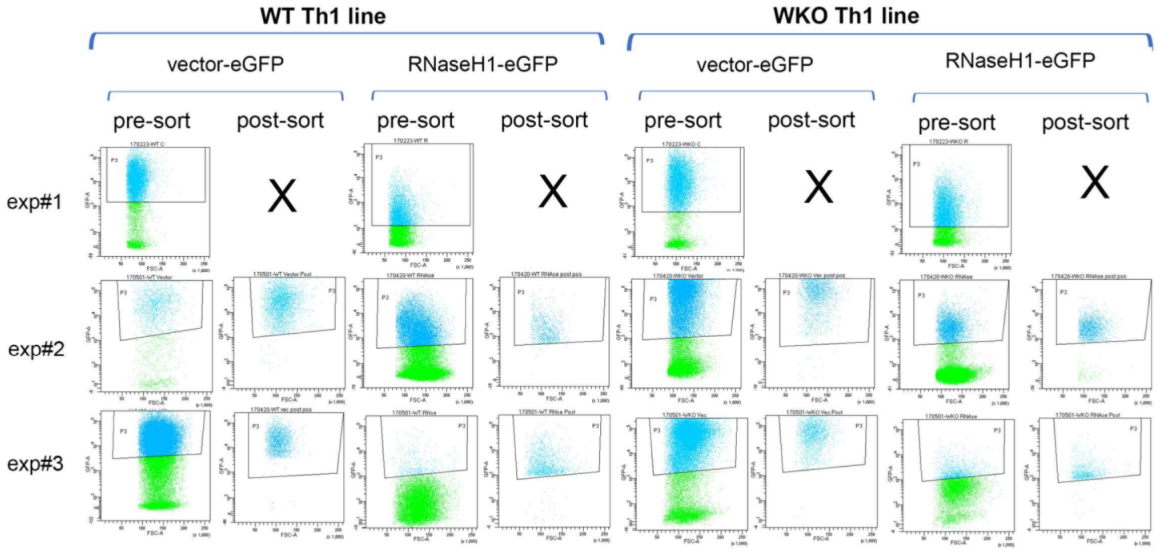
D Confirming WAS KO by gDNA sequencing



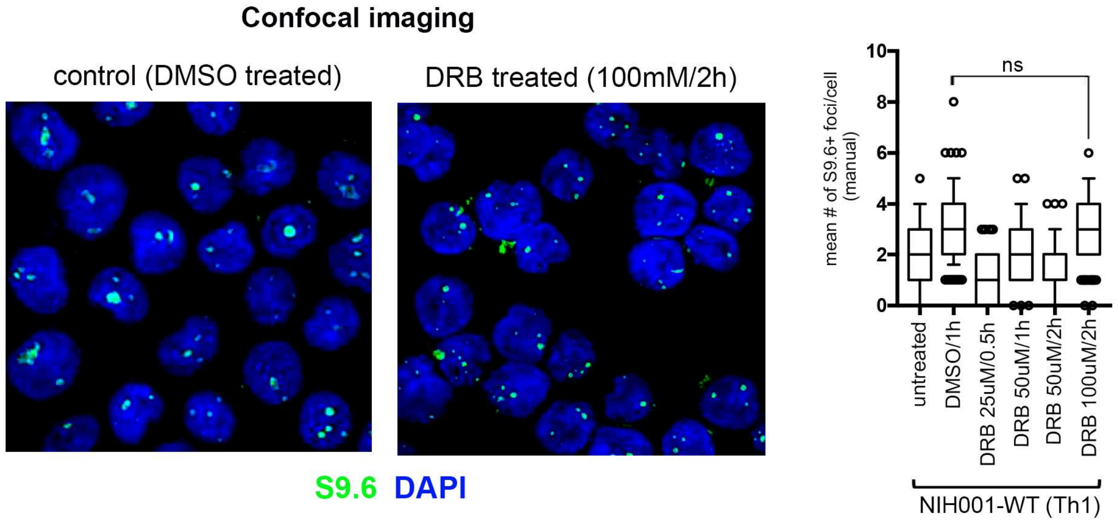
E Generation of RNA-interefence mediated WAS KD primary Th cells (ND8)



Supplementary Figure-3



Supplementary Figure 4



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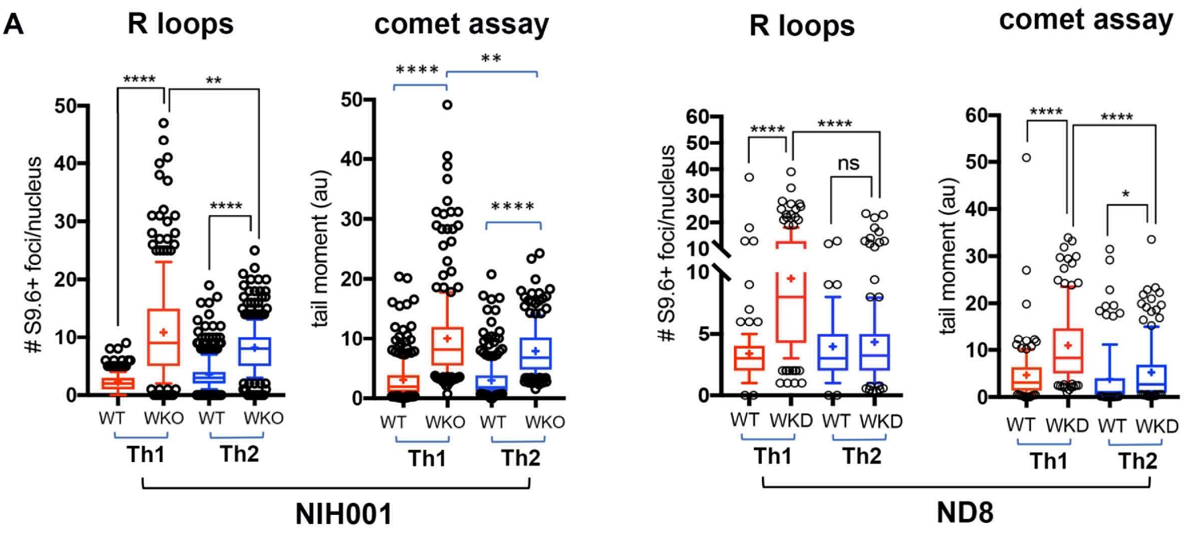
R loops
comet assay
R loops
comet assay
S9.6+ foci/nucleus
0
10
20
30
40
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WT
WKO
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WKO
Th1
Th2
tail moment (au)
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NIH001
S9.6+ foci/nucleus
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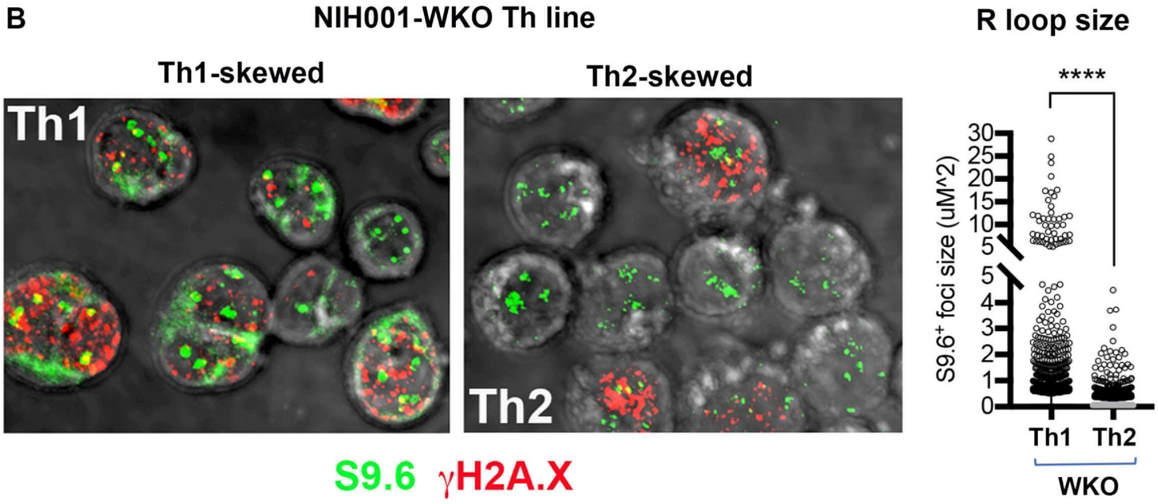
ND8

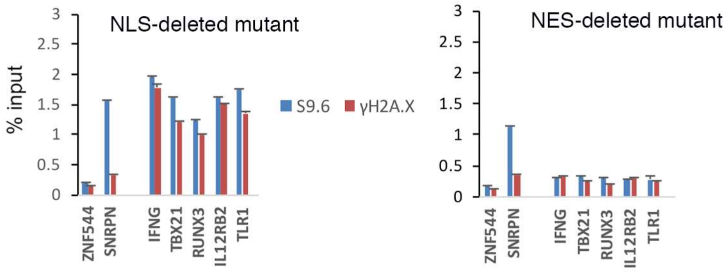
B


NIH001-WKO Th line
Th1-skewed
Th2-skewed
Th1
Th2
S9.6
γH2A.X
R loop size
****
S9.6+ foci size (uM^2)
0
1
2
3
4
5
5
10
15
20
25
30
Th1
Th2
WKO

Supplementary Figure-6

DRIP/ChIP-qPCR: 3’ end of genes

NIH002 Th line reconstituted with NLS-or NES-deleted WASp mutants (Th1-skewed)



Supplementary Figure-7