

Supplementary table 2. SUMO consensus and non-consensus sequence detection.

Conserved consensus sequences are highlighted in bold and are underlined; non-consensus sequences conserved between mouse and human are shown in bold.

RNA Polymerase II large subunit RPB1:

Species	Mouse		Human	
Isoform	-		-	
Detection result	Position	Type	Position	Type
	<u>707</u>	non-consensus	<u>707</u>	non-consensus
	<u>710</u>	non-consensus	<u>710</u>	non-consensus

The mouse and human proteins contain two conserved non-consensus sequences at the same residues.

MDC1:

Species	Mouse		Human	
Isoform	-		-	
Detection result	Position	Type	Position	Type
	274	ψ -K-X-E	182	non-consensus
	332	non-consensus	393	non-consensus
	333	non-consensus	616	ψ -K-X-E
	425	non-consensus	891	ψ -K-X-E
	854	non-consensus	1156	non-consensus
	858	non-consensus	1197	non-consensus
	865	ψ -K-X-E	1238	non-consensus
	980	non-consensus	1279	non-consensus
	1212	non-consensus	1320	non-consensus
	1448	non-consensus	1361	non-consensus
	1462	ψ -K-X-E	1413	ψ -K-X-E
	1471	ψ -K-X-E	1443	non-consensus
	1690	ψ -K-X-E	1484	non-consensus
			1525	non-consensus
			1566	non-consensus
			1607	non-consensus
			1648	non-consensus
			1840	ψ -K-X-E
		2071	ψ -K-X-E	
		2075	ψ -K-X-E	

The mouse and human proteins contain numerous consensus and non-consensus sequences, but these occur at different residues. However, several isoforms of the mouse and human protein are produced by alternative splicing; therefore, alternative splicing may result in a change in the absolute position of the binding sequence within the protein.

MILI/PIWIL2:

Species	Mouse		Human	
Isoform	-		-	
Detection result	Position	Type	Position	Type
	87	non-consensus	89	<u>ψ-K-X-E</u>
	290	non-consensus	292	non-consensus
			465	ψ-K-X-E
	486	<u>ψ-K-X-E</u>	488	<u>ψ-K-X-E</u>
	506	non-consensus	508	non-consensus
		541	ψ-K-X-E	

The mouse and human proteins contain conserved consensus and non-consensus sequences that occur at adjacent residues.

DDX4:

Species	Mouse				Human							
Isoform	1		2		1		2		3		4	
Detection result	Position	Type	Position	Type	Position	Type	Position	Type	Position	Type	Position	Type
	76	non-consensus	50	non-consensus								
	<u>227</u>	<u>ψ-K-X-E</u>	201	<u>ψ-K-X-E</u>	<u>228</u>	<u>ψ-K-X-E</u>	194	ψ-K-X-E	208	<u>ψ-K-X-E</u>	79	<u>ψ-K-X-E</u>
	471	non-consensus	445	non-consensus	472	non-consensus	438	non-consensus	452	non-consensus	323	non-consensus
	526	non-consensus	500	non-consensus	527	non-consensus	493	non-consensus	507	non-consensus	378	non-consensus

The mouse and human proteins contain one consensus and two non-consensus conserved sequences that occur at adjacent residues.

KAP1:

Species	Mouse		Human	
Detection result	Position	Type	Position	Type
	554	ψ-K-X-E	472	ψ-K-X-E
	676	ψ-K-X-E	594	ψ-K-X-E
	779	non-consensus	697	non-consensus

The mouse and human proteins contain two consensus and one non-consensus sequences

CDK1:

Species	Mouse		Human					
Isoform	-		1		2		3	
Detection result	Position	Type	Position	Type	Position	Type	Position	Type
	6	<u>ψ-K-X-E</u>			**			
							108	non-consensus
	295	non-consensus	295	non-consensus	238	non-consensus		
	296	non-consensus	296	non-consensus	239	non-consensus		

The mouse protein contains 1 consensus sequence, and the human protein contains no consensus sequence; however, the difference in the amino acid sequence of the consensus site is only one amino acid.

** Mouse and Human have two conserved non-consensus sequence at the same residues.

CDC5:

Species	Mouse		Human	
Isoform	-		-	
Detection result	Position	Type	Position	Type
	261	non-consensus	261	non-consensus
	535	non-consensus	535	non-consensus
	570	non-consensus	570	non-consensus
	576	<u>ψ-K-X-E</u>	576	<u>ψ-K-X-E</u>
	626	non-consensus	626	non-consensus
	630	non-consensus	630	non-consensus
	712	<u>ψ-K-X-E</u>	712	<u>ψ-K-X-E</u>
	756	non-consensus	756	non-consensus
	771	non-consensus	771	non-consensus

The mouse and human proteins contain two consensus and seven non-consensus conserved sequences that occur at the same residues.

STK31:

Species	Mouse		Human					
Isoform	-		1		2		3	
Detection result	Position	Type	Position	Type	Position	Type	Position	Type
	268	<u>ψ-K-X-E</u>	268	<u>ψ-K-X-E</u>	245	ψ -K-X-E	268	ψ -K-X-E
	301	non-consensus	301	non-consensus	278	non-consensus	301	non-consensus
	314	<u>ψ-K-X-E</u>	314	<u>ψ-K-X-E</u>	291	ψ -K-X-E	314	ψ -K-X-E
	330	<u>ψ-K-X-E</u>	330	<u>ψ-K-X-E</u>	307	ψ -K-X-E	330	ψ -K-X-E
	370	<u>ψ-K-X-E</u>	370	<u>ψ-K-X-E</u>	347	ψ -K-X-E	370	ψ -K-X-E
			557	non-consensus	534	non-consensus	557	non-consensus
	669	<u>ψ-K-X-E</u>	668	<u>ψ-K-X-E</u>	645	ψ -K-X-E	668	ψ -K-X-E
	786	ψ -K-X-E						
			993	non-consensus	970	non-consensus	970	non-consensus
1000	non-consensus	999	<u>ψ-K-X-E</u>	976	ψ -K-X-E	976	ψ -K-X-E	

The mouse and human proteins contain several conserved consensus and non-consensus sequences that occur at the same residues.

TDP-43:

Species	Mouse		Human	
Isoform	-			
Detection result	Position	Type	Position	Type
	136	non-consensus	136	non-consensus
			181	non-consensus

The mouse and human proteins contain a conserved non-consensus sequence at the same residues.

