TABLE 1. Examples of p53-interacting Proteins

p53-interacting protein	Method	p53 domain involved in interaction	Selected references
*A*ctivating *T*ranscription *F*actor 3 (ATF3)	GST pull-down,co-IP	FL	1
*A*taxia-*T*elangiectasia-*M*utated (ATM)	GST pull-down	FL	2
Bcl-XL	co-IP, GST pull-down	DNA-binding domain	3
Collaborator of ARF (CARF)	co-IP	FL	4
*Ch*eckpoint *k*inase 2 (Chk2)	GST pull-down, co-IP	amino terminal	5, 6
*Co*nstitutively *P*hoto-morphogenic 1 (COP1)	IP-tagged protein, silver staining + mass spectrometry		7
*G*lycogen *S*ynthase *K*inase-3 β (GSK3β),	IP	carboxyl terminal	8
*H*erpesvirus-*A*ssociated *U*biquitin-*S*pecific *P*rotease (HAUSP)	mass spectrometry of affinity-purified p53-associated factors	FL	9
*H*uman ortholog, *S*ilent *i*nformation *r*egulator (hSir2)	co-IP, IF	carboxyl terminal and central	10
c-*J*un-*N*-terminal *k*inase (JNK)	co-IP	amino terminal	11
*M*uscle *S*egment homeodomain family, vertebrate homolog 1 (Msx1)	co-IP	FL	12
*N*ADPH:*q*uinone *o*xidoreductase 1 (NQO1)	gel filtration, co-IP	FL	13, 14
*P*oly(*A*DP-*R*ibose) *P*olymerase-1 (PARP-1)	IP	central and carboxy-terminal fragments	15
*P*rotein *I*nhibitor of *A*ctivated *S*TAT (PIAS)	Y2H, co-IP	FL	16, 17
*p*53-*i*nduced protein with a *R*ING *H2* domain (Pirh2)	co-IP	DNA-binding domain	18
*Pro**m**y*elocytic *l*eukemia protein (PML)	GST pull-down and IVT	DNA-binding domain	19
P300/CBP	co-IP, ChIP	amino terminal	20
*P*olo-*l*ike *k*inase 1 (Plk1)	co-IP	DNA-binding domain	21
*Re*dox *f*actor 1/ *AP-E*ndonuclease 1 (Ref-1/APE1)	far-western and IP-western assays in vitro	FL	22
*S*caffold/*M*atrix *A*ttachment *R*egion binding protein-1 (SMAR1)	co-IP	FL	23
S100B	co-IP	FL	24
*T*BP-*A*ssociated *F*actor 1 (TAF1)	co-IP	carboxyl terminal	25
*Tr*ansformation/*tr*anscription domain *a*ssociated *p*rotein (TRRAP), hGcn5, $TAF_{II}30$	co-IP, GST pull-down	carbooxyl terminal	26
*Wern*ers' syndrome protein (WRN)	co-IP	FL	27
14-3-3	co-IP, GST pull-down	carboxyl terminal	28

The proteins listed in this table represent some (not all) of the factors identified as p53 interactors since 1998. The significant majority of these interactions were identified and characterized by targeted co-IP or by other biochemical means; in contrast, two-hybrid and other genetic approaches have been less useful for identification of p53 interactors. IP, immunoprecipitation; Y2H, yeast two-hybrid; IVT, in vitro translation; ChIP, chromatin IP; FL, full length; IF, immunofluorescence.

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