



p53 SIGNALING

The multi-functional p53 tumor suppressor regulates a wide range of different genes in important cellular functions such as apoptosis, proliferation, differentiation or cellular stress. The p53 pathway responds to stresses, both internal and external to the cell, that can disrupt the fidelity of DNA replication and cell division. When a stressor such as UV radiation is detected, p53 is activated via post-translational modifications. Depending on the context, p53 then promotes the transcription of either cell cycle arrest, cellular senescence or apoptosis genes. The deleterious effects of intrinsic or extrinsic stresses, which could result in aberrant DNA replication, genome instability or anomalies in chromosome segregation, are accommodated (cell cycle arrest and DNA repair) or, alternatively, eliminated (apoptosis) by the p53 pathway in this way.

In addition to these responses at the single-cell level, the p53 pathway of one cell can communicate with neighboring cells by triggering the secretion of proteins that may alter the cellular environment. For example, p53 pathway-secreted proteins can alter the extracellular matrix and influence angiogenic signals in a localized region of tissue. Overall, the p53 pathway plays an important role in our understanding of cancer as its loss-of-function is a common feature of human cancers.

Legend	
—	Association
→	Directly Activates
→	Indirectly Activates
—	Inhibits
Ac	Acetylation
Ub	Ubiquitin
P	Phosphorylates

For more information or other pathways visit ptglab.com

RELATED PRODUCTS

Antibody Name	Catalog Number	Type	Applications
14-3-3	14303-1-AP	Rabbit Poly	ELISA, FC, IF, IHC, IP, WB
ATR	19787-1-AP	Rabbit Poly	ELISA, WB
BAX	50599-2-Ig	Rabbit Poly	ELISA, FC, IF, IHC, IP, WB
BCL2	12789-1-AP	Rabbit Poly	ELISA, FC, IF, IHC, IP, WB
BRCA1	20649-1-AP	Rabbit Poly	ELISA, IHC, IP, WB
BRCA2	19791-1-AP	Rabbit Poly	ELISA, IHC, WB
CASP3	19677-1-AP	Rabbit Poly	ELISA, IF, IHC, IP, WB
CCNE1 Cyclin E1	11554-1-AP	Rabbit Poly	ELISA, FC, WB
CCNE2 Cyclin E2	11935-1-AP	Rabbit Poly	ELISA, FC, IF, IHC, IP, WB
CDK2	10122-1-AP	Rabbit Poly	ELISA, FC, IF, IHC, IP, WB
CDK4	11026-1-AP	Rabbit Poly	ELISA, FC, IF, IHC, IP, WB
CHK1	10362-1-AP	Rabbit Poly	ELISA, FC, IF, WB
CHK2	13954-1-AP	Rabbit Poly	ELISA, IF, IP, WB
CDKN2A	10883-1-AP	Rabbit Poly	ELISA, FC, IF, IHC, IP, WB
Erk1	11257-1-AP	Rabbit Poly	ELISA, IF, IHC, WB
Erk2	16443-1-AP	Rabbit Poly	ELISA, IF, IHC, WB
Erk2	51068-1-AP	Rabbit Poly	ELISA, IF, IHC, WB
GADD45A	13747-1-AP	Rabbit Poly	ELISA, IP, WB
GADD45G	10277-1-AP	Rabbit Poly	ELISA, WB
HDAC1	10197-1-AP	Rabbit Poly	ELISA, FC, IF, IHC, IP, WB
HDAC2	12922-3-AP	Rabbit Poly	ELISA, FC, IF, IHC, IP, WB

Antibody Name	Catalog Number	Type	Applications
HRAS	18295-1-AP	Rabbit Poly	ELISA, FC, IF, IHC, WB
JNK3	51151-1-AP	Rabbit Poly	ELISA, IF, IP, WB
KAT5/PCAF	13983-1-AP	Rabbit Poly	ELISA, IHC, IP
KRAS	12063-1-AP	Rabbit Poly	ELISA, FC, IF, IHC, IP, WB
NFKB1A	51066-1-AP	Rabbit Poly	ELISA, IHC, IP, WB
MAP2K2/MMK2	11049-1-AP	Rabbit Poly	ELISA, IF, IP, WB
p16-INK4A	10883-1-AP	Rabbit Poly	ELISA, FC, IF, IHC, IP, WB
p21	10355-1-AP	Rabbit Poly	ELISA, FC, IF, IHC, IP, WB
p53	10442-1-AP	Rabbit Poly	ELISA, IF, IHC, IP, WB
PCNA	10205-2-AP	Rabbit Poly	ELISA, FC, IF, IHC, IP, WB
PCNA	60097-1-Ig	Mouse Mono	ELISA, FC, IF, IHC, IP, WB
PIAS3	13486-1-AP	Rabbit Poly	ELISA, IF, IHC, WB
PRKCD	14188-1-AP	Rabbit Poly	ELISA, IP, WB
PRKDC	19983-1-AP	Rabbit Poly	ELISA, WB
Rb1	10048-2-Ig	Mouse Mono	ELISA, IHC, IP, WB
Rb1	17218-1-AP	Rabbit Poly	ELISA, WB
SIRT1	13161-1-AP	Rabbit Poly	ELISA, IF, IHC, IP, WB
USP5	10473-1-AP	Rabbit Poly	ELISA, IF, IP, WB
USP5	15158-1-AP	Rabbit Poly	ELISA, IF, IP, WB

This number shows the amount of times our antibody has been cited in a publication.

CONTACT DETAILS

www.ptglab.com

PROTEINTECH GROUP

US Head Office

A: Proteintech Group, Inc.
5400 Pearl Street,
Rosemont, IL, 60018,
USA
T: 1 (888) 4PTGLAB,
(1-888-478-4522)
(toll free in USA),
or 1 (312) 455-8498
(outside USA)
F: 1 (312) 455-8408
E: proteintech@ptglab.com

PROTEINTECH EUROPE

United Kingdom

A: Proteintech Europe, Inc.
4th Floor
196 Deansgate
Manchester
M3 3WF
T: +44 (161) 839-3007
F: +44 (161) 241-3103
E: europe@ptglab.com

PROTEINTECH CHINA OFFICE

China Office

A: Wuhan Sanying Biotechnologies,
D3-3, No.666 Gaoxin Avenue,
Wuhan East Lake Hi-tech
Development Zone
Wuhan, Hubei, P.R.C
T: 027-87531629
or 4006-900-926
F: 027-87531627
E: service@ptglab.com

