Supplementary Table S3| **RING E3s Implicated in DNA repair***

E3	Target	Type of ubiquitination	E3 function	Comments	Refs
Rad18	PCNA	Mono on Lys164 of PCNA	Translesional DNA repair (error prone) when not coupled to Rad5 (below).		1, 2, reviewed in 3
Rad5	PCNA	Lys63 chains after priming by Rad18	Error free DNA damage tolerance (DDT)		2, reviewed in 3
$SCF^{\beta\text{-}TrCP}$	FANCM	Lys48 chains	Prevents activation of FANC core E3	Degraded in mitosis, prevents inappropriate activation of FANC complex and chromosomal abnormalities (see Review for additional information)	4, reviewed in 5
RNF8	H2A, H2B	Mono, Lys63 chains	DNA double strand break repair	Recruited by phosphorylated H2AX (γH2AX)	6-12, reviewed in 13
RNF168	H2A, H2AX	Lys63 chains	DNA double strand break repair	Recruited through MIU-type ubiquitin binding domains to RNF8-generated Lys63 chains. Mutations causative for RIDDLE syndrome, an immunodeficiency disorder characterized by hypersensitivity to DNA damaging agents and by defects in recruitment of p53BP1 and BRCA1 to sites of DNA damage	14-16, reviewed in 13
$CRL4^{DDB2}$	H2A	mono	Nuclear excision repair in response to UV radiation	Mutations in DDB2 cause Xeroderma Pigmentosum group E skin cancer susceptibility phenotype.	17, 18
RING2 (RNF2)	H2A	mono	Nuclear excision repair in response to UV irradiation	Functions in a complex with the RING finger protein Bmi1	19, 20

* See Review for discussions of BRCA1 and FANC core E3 complex

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