# LIST OF ABBREVIATIONS

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|---|---|
| ANS | (1-Anilino 8-Naphthalene sulphonic acid) |
| Bp | base pair (s) |
| CD | Circular dichroism |
| DTT | Dithiothreitol |
| FRET | Fluorescence Resonance Energy Transfer |
| Gdn HCl | Guanidine hydrochloride |
| TFE | 2,2,2 - trifluoroethanol |
| IPTG | Isopropyl β-D thio galactopyranoside |
| Kb | kilobase (s) |
| kDa | Kilodalton |
| LB | Luria broth |
| PCR | Polymerase chain reaction |
| PEI | Polyethylenimine |
| PMSF | Phenylmethylsulfonyl fluoride |
| SD | Synthetic dextrose media |
| SUMO | Small ubiquitin like modifier |
| SDM | Site Directed Mutagenesis |
| PAGE | Polyacrylamide gel electrophoresis |
| Ub | Ubiquitin |
| UbWt | Wild type ubiquitin |
| YUb | Yeast ubiquitin |
| HUb | Mammalian/Human ubiquitin |
| EP42 | Ubiquitin with four mutations. S20F, A46S, L50P and I61T |
| S20F | Serine to phenylalanine replacement at $20^{th}$ position of ubiquitin |
| A46S | Alanine to Serine replacement at $46^{th}$ position of ubiquitin |
| L50P | Leucine to Proline replacement at $50^{th}$ position of ubiquitin |

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|---|---|
| I61T | Isoleucine to Threonine replacement at 61st position of ubiquitin |
| UPS | Ubiquitin proteasome system |
| Wt | Wild type |
| X-Gal | 5-Bromo-4-chloro-3-indolyl-β-D galactopyranoside |
| YUb | Yeast ubiquitin |
| MTT | (3-(4,5-Dimethylthiazol-2-yl)-2,5-Diphenyltetrazolium Bromide) |

# ABBREVIATIONS FOR AMINO ACIDS

| Amino Acid | Three Letter code | Single Letter code | Amino Acid | Three Letter code | Single Letter code |
|---|---|---|---|---|---|
| Alanine | Ala | A | Leucine | Leu | L |
| Arginine | Arg | R | Lysine | Lys | K |
| Asparagine | Asn | N | Methionine | Met | M |
| Aspartic acid | Asp | D | Phenylalanine | Phe | F |
| Cysteine | Cys | C | Proline | Pro | P |
| Glutamic acid | Glu | E | Serine | Ser | S |
| Glutamine | Gln | Q | Threonine | Thr | T |
| Glycine | Gly | G | Tryptophan | Trp | W |
| Histidine | His | H | Tyrosine | Tyr | Y |
| Isoleucine | Ile | I | Valine | Val | V |