

* Ubiquitin mediated protein degradation

→ protein degradation

ATP-Independent

- Degradation of extracellular protein
- Membrane associated protein
- long lived intracellular protein

- occurs in lysosomes
- use acid hydrolases

ATP-Dependent

- Degradation of regulatory protein with short half-lives & abnormal or misfolded protein

- occurs in cytosol
- Require ubiquitin

→ Ubiquitin :-

- Small polypeptide, nonenzymic protein
- Target intracellular proteins for degradation
- Bond of Non α peptide bond / isopeptide bond

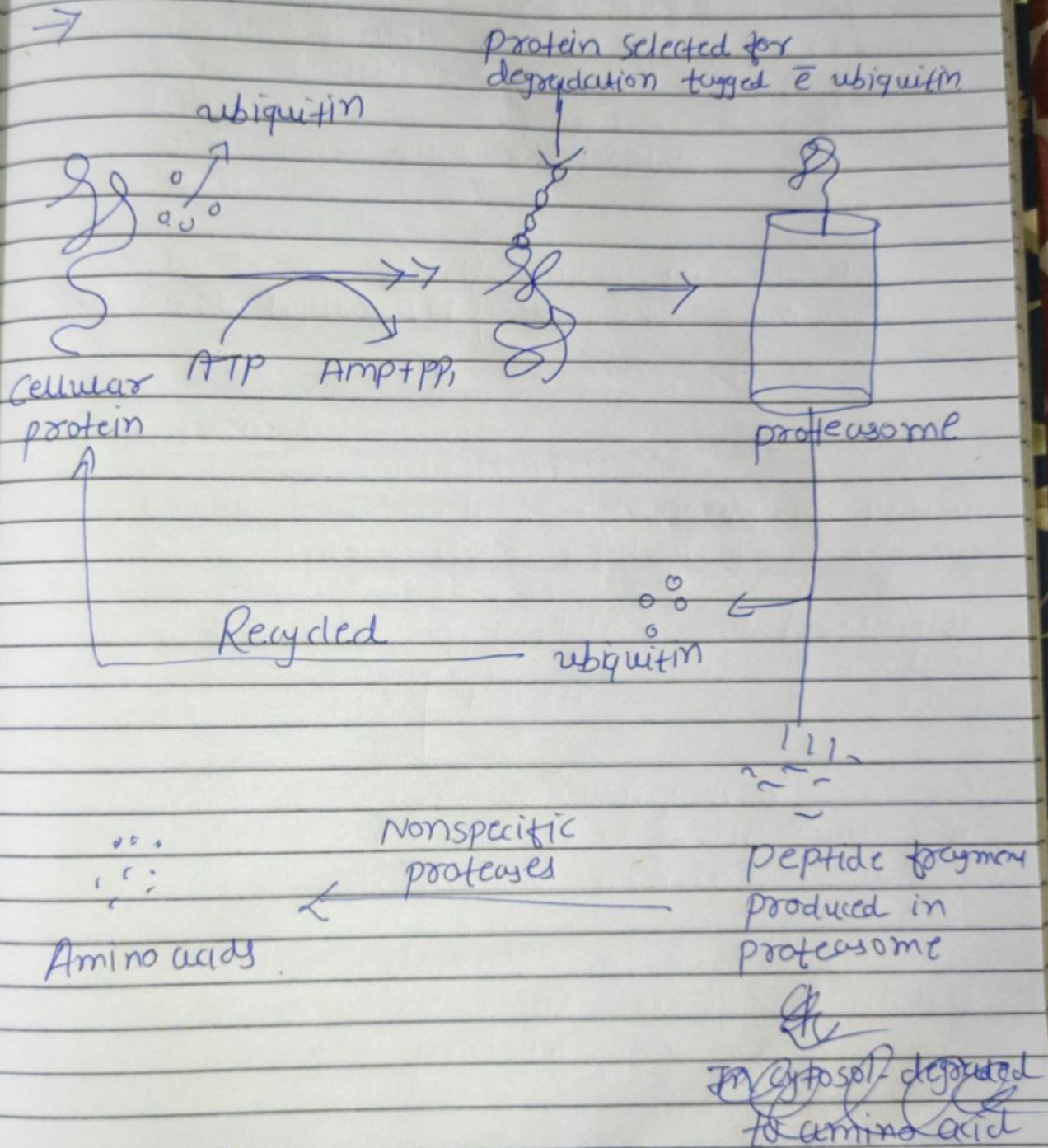
↓ between

(C) terminal of ubiquitin &
(E) amino group of lysyl residue of target protein

- Ubiquitination depends on amino acid residue present at amino terminus of protein

3 enzymes are involved

- E1 - Activating enzyme
- E2 - Transferase enzyme
- E3 - Ligase enzyme



(Ubiquitin - proteasome system of cytosol)