

P031 Cancer cell targeted therapy using chimaeric proteins
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The mortality rate in cancer patients indicates the desperate need for novel therapies with selective targeting which ensure better efficacy and safety. One of the novel approaches developed in recent past is chimeric protein therapy using fusion toxins or immunotoxins. Fusion toxins targeted against cancer usually have three important units. The first is the cell selective ligand or receptor-binding domain, which corresponds to over expressed receptors on tumor cell surface. The second is the cell penetrating peptide or translocation domain, which helps in translocation of cytotoxic domain into the tumor cell cytoplasm. The third is the cytotoxic domain or catalytic domain, which brings about the tumor cell death.

The major challenges being faced in their clinical application are non-specific uptake (by normal cells), humoral immune response, and poor pharmacokinetics. Efforts are being made to a) design new chimeric proteins that target wider range of tumor cells and b) improve pharmacokinetics of existing molecules.