

## S15-1 Enhancement of insulin absorption through mucosal membranes using cationic polymers

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Cationic polymers (e. g. cationated gelatins, cationated pullulans and poly-L-arginines) have potential to promote transmucosal delivery of peptide and protein drugs without producing any toxic effects on epithelial cells. These cationic polymers could interact with the mucosal membranes and increase the number of pathways for water-soluble macromolecules in the tight junctions. In the case of insulin having negative charges in neutral solutions, interaction between the cationic polymers and insulin is also important to promote suitable delivery. An appropriate interaction can help insulin to access to cell surface, but too strong interaction suppress insulin absorption.