

The expression, biosynthesis and processing of SC were studied by continuous labelling as well as pulse/chase experiments using ³⁵S-methionine in organ culture of human small intestinal biopsies and in a transformed human intestinal cell line, HT-29.

In both systems SC was first produced as a precursor molecule of Mr=100,000 which was converted to a Mr=110,000 form upon acquisition of peripheral carbohydrates. After 1 h of chase a Mr=80,000 species appeared which was then also found in the culture medium, i.e. was secreted. The appearance of this Mr=80,000 form was totally prevented by the addition to the culture medium of leupeptin, clearly showing it to be a proteolytic cleavage product. In cultured biopsies an additional SC species was produced in the form of a doublet of Mr=60,000 and which was also secreted into the medium.

Conclusion: These results show that in human small intestinal epithelial cells SC is produced differently to other tissues.