

Abstract Submitted  
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**Physical Properties of Human Whole Salivary Mucin: A Dynamic Light Scattering Study** MANISH MAHAJAN, All India Institute of Medical Sciences, New Delhi, VIJAY KUMAR, MAYANK SARASWAT, SAVITA YADAV, N.K. SHUKLA, T.P. SINGH, DR. BHIM RAO AMBEDHKAR INSTITUTE OF ROTARY CANCER HOSPITAL COLLABORATION — Human salivary mucin, a primary mucous membrane coating glycoprotein forms the first line of defense against adverse environments, attributed to the complex formation between mucin subunits and non mucin species. Aim of the study was to emphasize the effect of pH, denaturants (guanidinium hydrochloride, urea) and detergents (CHAPS, TRITON X -100, SDS) on human whole salivary mucin. Hydrodynamic size distribution was measured using DLS. It was observed that aggregation was due to increase in hydrophobic interactions, believed to be accomplished by unfolding of the protein core. Whereas, the detergents which solubilize the proteins by decreasing hydrophobicity lead to disaggregation of mucin into smaller fragments. Mucin subjected to tobacco extract and upon subsequent addition of nicotine was found to have a disaggregating effect on it, suggesting nicotine may be one of the factors responsible for the disaggregating effect of tobacco on mucin, an important carcinogenetic mechanism.

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