

during the periods of acute presence of infections and irritants for protection. This higher supplies of mucin in acute phases are made possible due to an efficient packing mechanism of mucin granules in goblet cells [7]. Structural and compositional variations of the mucus gel layer are noted in different parts of the body.

4. EVALUATION OF MUCOADHESIVE PROPERTIES

Various methods are reported for characterizing mucoadhesive behavior of the polymers. These methods are classified on the basis of different techniques used to measure the mucoadhesive properties of these polymers. A brief classification of these methods is shown in Fig. 2.

4.1. Force Determination Methods

4.1.1. Texture analyzer

In this method a piece of a mucosal layer from a biological source is dragged over a mucoadhesive film. A texture analyzer is used for this study. Briefly thin films of mucoadhesive polymer are formed and attached to the lower stationary surface of the texture analyzer by clamps. The attached mucosa is hydrated with buffer and then dragged by the texture analyzer over the pre hydrated polymer film at a certain rate, i.e., 0.5 mm/s [8]. The friction produced to move the block on the film is measured which is directly proportional to the mucoadhesion. This technique is only useful to characterize the mucoadhesion quantitatively for polymer films [9].

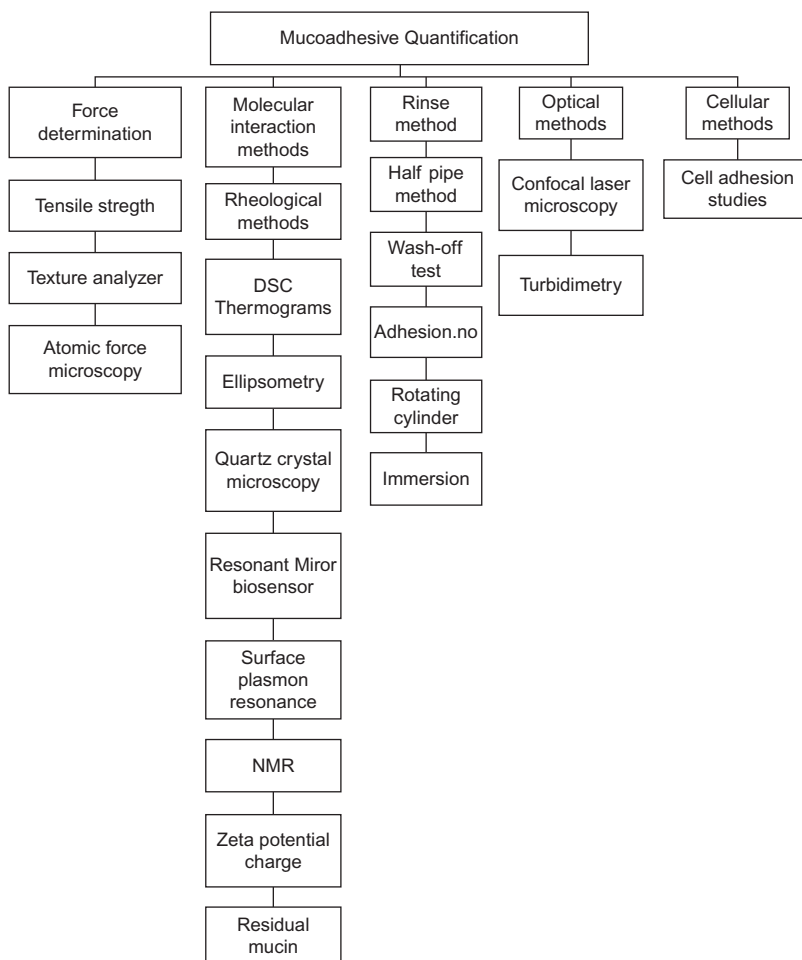


FIG. 2 Classification of various mucoadhesive quantification techniques.