

# Matrix remodeling and endometriosis

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## Abstract

The physiological changes in endometriosis involving multiple steps of matrix remodeling include abnormal tissue growth, invasion, and adhesion formation. Endometriosis-associated abnormal matrix remodeling is affected by several molecular factors including proteolytic enzymes and their inhibitors, which mediate tissue turnover throughout the reproductive tract to maintain the integrity of the endometrium, and ovarian steroids, which normally regulate reconstruction and breakdown of endometrium in the menstrual cycle. In addition, various growth factors, such as platelet-derived growth factor, transform growth factor  $\beta$ , and epidermal growth factor, direct modulation of growth, activation, and chemotaxis which may facilitate endometrial cell adhesion onto the peritoneal mesothelium during the development of endometriosis. Furthermore, cell adhesion molecules are believed to be critically involved in most cellular-level processes including cellular differentiation, motility, and attachment with the extracellular matrix. The present review focuses on the abnormal matrix remodeling process and its possible regulatory mechanism in association with endometriosis development. As a greater understanding of the cause of endometriosis is achieved, better treatment of the disease and its prevention become possible..