



1 **Diabetes up-regulated collagen IV and laminin $\alpha 5$ genes in mRNA and protein levels in**

2 **seminiferous tubules of C57BL/6 adult mice**

3 **Running title: Correlation between diabetic and collagen IV and laminin $\alpha 5$**

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11 **Abstract**

12 Diabetes is a disease associated with impairment of the male reproductive system that causes
13 complications such as decreased testosterone, the diameter of the seminiferous tubule, libido, and
14 fertility. Extracellular matrix (ECM) molecules are involved in testicular development and
15 spermatogenesis. Laminin and collagen are key proteins in seminiferous tubule basement membrane
16 and play an important role in spermatogenesis. The present study was conducted to investigate the
17 effect of diabetes on collagen IV and laminin $\alpha 5$ changes in mice testis. In this experimental study, 40

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