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## **CHAPTER 3**

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### **Cell - Matrix Interaction: Integrins and Fibronexus**

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**3.1 Adhesion Proteins (Laminin and Fibronectin)**

**3.2 Cell Adhesion Molecules (CAMs)**

**3.3 Role of CAMs in Physiological Processes (e.g., Wound Healing)**

**3.4 Haptotaxis**

**3.5 Fibronexus**

## 3.1 ADHESION PROTEINS

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### 3.1.1 Fibronecton

3.1.1.1 Functions depend on its binding to biological structures: cell surfaces, collagen, heparin, and fibrin.

3.1.1.2 Composed of two similar polypeptide chains (each with a molecular weight of 250 kD) linked by disulfide bonds.

3.1.1.3 Heterogeneity in the size of the fibronectin chains (from plasma and cell culture), but one gene.

3.1.1.4 The fibronectin molecule is a strand of independent, globular domains connected by short flexible segments (length is 140nm and diameter is 2nm).

3.1.1.5 Fibronectin binds to both hydrophobic and hydrophilic surfaces.

### 3.1.1 FIBRONECTON (Molecular Cell Biology, Darnell, *et al.*, 1990)

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See Chapter 23, pp. 922-924 in Darnell, J. E. et al. *Molecular Cell Biology*. 2nd ed.  
New York: Scientific American Books, distributed by W.H. Freeman, 1990.  
ISBN: 0716719819.

### 3.1.2 LAMININ (Molecular Cell Biology, Darnell, *et al.*, 1990)

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See Chapter 23, Fig. 23-22 to Fig. 23-24 in Darnell, J. E. et al. *Molecular Cell Biology*. 2nd ed. New York: Scientific American Books, distributed by W.H. Freeman, 1990.

ISBN: 0716719819.

Leadbetter, W. B., et al. "HAPTOTAXIS." ed. Sports Induced Inflammation. 1990.

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See "Cell Migration in Repair" and Fig. 13 in Leadbetter, W.B. et al., eds.

*Sports Induced Inflammation*. Rosemont, IL: American Academy of Orthopaedic Surgeons, 1990.

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