**Data Analysis Problem**

by Marianna Pap and József Szeberényi

to accompany

*The Cell: A Molecular Approach,* Eighth Edition

Geoffrey M. Cooper

**16.1 The Pericellular Coat of Chondrocytes**

This Data Analysis Problem is also found on page 560 of the textbook.

**Source:** Zaidel-Bar, R., M. Cohen, L. Addadi, B. Geiger. 2004. Hierarchical assembly of cell-matrix adhesion complexes. *Biochem. Soc. Transactions* 32: 416–420.

**Level of difficulty:** Low

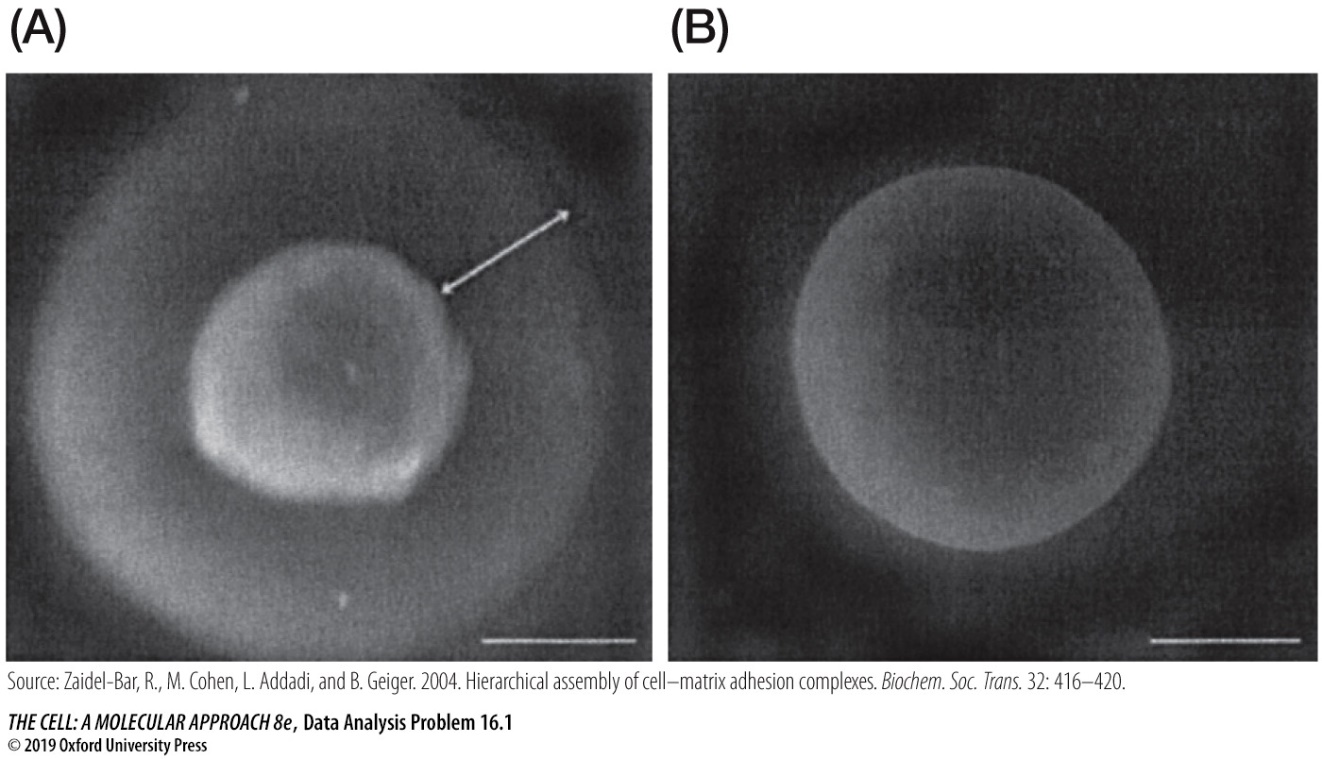
**Corresponding chapter(s) in the textbook:** Chapter 16

**Review the following terms before working on the problem:** extracellular matrix, glycosaminoglycans, uranyl acetate, scanning electron microscopy

**Experiment**

Chondrocytes in suspension were either left untreated (A) or were treated with hyaluronidase (B). The cells were then fixed, treated with uranyl acetate, and analyzed by scanning electron microscopy (scale bar = 5 μm).

**Figure**



**Questions**

1. Briefly describe scanning electron microscopy.

2. What conclusion can be drawn about the chemical composition of the pericellular coat of chondrocytes (micrograph A)?

3. Determine the thickness of the pericellular coat.