Assignment 7: Cell Adhesion and Migration

EN 585.729 Cell and Tissue Engineering

Problems

1. Name that molecule or complex (adhesion/junction):
    a. Thin alpha helix fibrils, found in intervertebral disks
    b. Motors composed of this protein are used to contract the cell during migration
    c. Cell-cell adhesion that links to intermediate filaments
    d. A dimer that contains a heparin-binding domain which facilitates binding to other ECM molecules as well as growth factors resulting in haptotactic gradients
    e. A monomer that participates in homotypic bonds during the leukocyte adhesion cascade
    f. Comes in many lengths and (with one exception) covalently attach to proteins increasing their sugar content
    g. An adhesion that utilizes integrins and connects to the actin cytoskeleton
    h. Three chains joined together in a cross or "t" shaped

2. (1 page or less) Provide a critical response to the assigned reading article "Directed Migration in Neural Tissue Engineering" by Wrobel and Sundararaghavan. First, concisely summarize the goals of this review paper (why was it written?). Second, respond to the paper by thinking critically about what the authors have told you → In the response please consider the different methods of directed migration and comment on which methods are the most advanced, have been the most successful and are good candidates for combination with other directed migration methods.

Rubric

Question	Component	Point Value
1	A	1
	B	1
	C	1
	D	1
	E	1
	F	1
	G	1
	H	1
2	Concise Summary	5
	Response	17
	Total Points	30