CHAPTER III.2.10

Entrepreneurship in Biomaterials

QUESTIONS

1. Calculating share price, post money, and pre-money valuations.
A new company needs to raise a $5,000,000 (series A) investment, and they are negotiating pre-money valuation with a venture firm. They also expect to require a $10,000,000 second round (series B) of funding in three years to bring their technology to the point where they can sell the company for $50,000,000.
   a. For the Series A investment, plot the post-money valuation as a function of the pre-money valuation.
   b. Assume that the series B pre-money valuation is 30% greater than the series A post-money valuation (a 30% step-up). Plot the series B post-money valuation as a function of the pre-money valuation that is being negotiated for Series A.
   c. Generate a capitalization table with the following rows: number of shares owned by founders; number of shares owned by investors; total shares; value of shares owned by founders; investors; total valuation share price. Calculate the values in these rows for each stage of the investment (before and after Series A and B, and at the time of acquisition). Assume that Series A pre-money is $3,000,000 shares which are issued at $1 per share, and that Series B shares are issued at a 30% step-up.

2. One patent (US Patent 4,485,096) has as its primary claim a method of producing a tissue-equivalent, comprising:
   a. combining a collagen solution with a contractile agent under conditions to form a gel mixture having said contractile agent dispersed within said gel mixture; and then
   b. maintaining the gel mixture prepared in the step above under conditions which permit the contraction of said gel mixture to form a tissue-equivalent.
A second patent (US Patent 4,533,272) has as its primary claim a method of repair of patient tissues by an implant comprising:
   providing a starter cell sample;
   providing an implant member having a porous structure;
   providing said implant material with an open pore structure having a number of pores of an average pore size of about 25 to 75 microns;
   introducing said cell sample into the pores of said implant member;
   surgically effecting securement of said implant to said patient, whereby said cell sample will initiate growth within said pores and effect reconstruction of said tissues;
   providing said implant member with at least two distinct pore sizes;
   providing a first said pore size of about 100 to 400 microns and a second said pore size of about 25 to 75 microns;
   culturing said starter cells in said second pores; and providing a barrier separating said first pores from said second pores.
Which patent do you think would be more valuable and why?