The Extracellular Matrix and Cell Migration

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Abstract
As we know all too well, pancreatic cancer has a very poor prognosis largely due to its early tendency to invade, locally and distantly. Recently, scientists in the field have increasingly focused on the desmoplastic reaction, which is characteristic of most pancreatic cancers. This reaction is associated with proliferation of fibroblastic cells, sometimes outnumbering local tumor cells, and consists of abundant extracellular matrix (ECM) proteins. Importantly, the processes of invasion and metastasis take place within this tumor microenvironment. Stroma and tumor cells exchange signals to modify the local ECM, which subsequently stimulates cell migration and promotes proliferation and survival. Even though recognition of the significance of these microenvironment interactions exists, knowledge on the mechanisms of the interplay among pancreatic cells, myofibroblasts, and the ECM is lacking. Therefore, this ‘Pancreatology and the Web’ focuses on websites that provide information on the ECM and cell migration.

Cytokines & Cells Online Pathfinder Encyclopedia:
http://www.copewithcytokines.de/cope.cgi

Cytokines & Cells Online Pathfinder Encyclopedia (COPE) is a comprehensive website to query information on cytokines, proteins that mediate interactions between cells directly and regulate processes taking place in the extracellular environment, and various cellular pathways. This online encyclopedia is the updated and revised internet version of the printed 'Dictionary of Cytokines' from 1995, which is currently out of print. The entries are arranged alphabetically, and they define the function of each known cytokine and cover topics ranging from angiogenesis to apoptosis, survival factors, and chemotaxis.
Cell Migration Gateway: http://www.cellmigration.org/index.shtml

This website is a comprehensive and free online resource aimed at keeping the scientist abreast of developments in the field of migration research. The Cell Migration Gateway has been the result of a collaboration between the Cell Migration Consortium (CMC) and the Nature Publishing Group (NPG). The website includes the Cell Migration Updates, CMC Activity Center and CM Knowledgebase. Information on new and significant contributions to the field from outside and within the Consortium is merged into a comprehensive Cell Migration database. Updated monthly, the section of Cell Migration Updates provides a concise overview of current research in cell migration for experts as well as novices, featuring two articles per month on the most relevant advances, including those published in non-NPG journals. Activities of the Consortium are presented though the CMC Activity Center, which describes various projects occurring within the Consortium, their chosen approaches to achieve their objectives and lists resources available to migration researchers, from within and outside the Consortium.

The Extracellular Matrix:
http://users.rcn.com/jkimball.ma.ultranet/BiologyPages/E/ECM.html

This website contains a back-to-the-basics overview of the extracellular matrix (ECM), with the components involved and various processes that involve the ECM, such as metastasis. The page includes links to relevant images and drawings to give an individual the fundamental knowledge to understand articles from the field and conceptualize the players involved.

Nikon Microscopy U: Cell Motility:

This website has a nice digital image and video gallery of live cell motility. The videos presented in this gallery investigate animal cell motility patterns in a wide variety of morphologically different specimens, which can be downloaded as mpeg files as well. This source provides a beautiful view of the process of cell motility in action!