Finding & Reading
Cutting Edge Science

CHM 406: Biological Inorganic Chemistry
Sue Cardinal, Chemistry Librarian
2/3/16
Your Proposal Assignment

- Original Research Idea - Not done yet - cutting edge - creativity needed
- Background - what has been happening in this area and what are you going to contribute - Defining the cutting edge
- Approach - your experimental or theoretical methodology - has anyone tried something similar?
- References - Be selective - you will need to read much more and assess quality.
Hands-on Exercise

- Define what you will search.
- Choose a database. Use the database comparison chart and ask the librarian if you aren’t sure.
- Find a high quality article on your topic.
- Use the article to bridge to other articles.
- Identify interesting authors and journals where the work is published.
- Set up an alert so that you are notified about any newer articles.
- Bonus: Look in the library catalog or “Articles & Books” for any books on your topic.
Your Topic

- Not sure? Browse conferences and journals for ideas.
- Needs to be narrow and specific. You can start reading abstracts broadly, but will need to refine your focus before you read papers and write.
- Break it down into concepts. Think of synonyms. Combine into a search. See handout.
Which Database will you search?

Let’s compare. . .
Finding the Edge

1. One article leads to many
2. Reviews as entry points
3. Search begins . . . Gold nanoparticles in chemotherapy
What are indicators of quality for an article?

- Journal brand - peer review - quality of editorial process - impact factor - eigenfactor
- Author’s reputation
- Author’s organization’s reputation
- Author is working in his/her field
- Currency - information has a shelf life and it differs by field/ topic
- Bias - is there a conflict of interest? Ex. pharma publishing about their own drugs
- Citations - quality of articles connected to it
- Quality of the writing and formatting
Fabrication of gold nanoparticles for targeted therapy in pancreatic cancer

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Abstract
The targeted delivery of a drug should result in enhanced therapeutic efficacy with low to minimal side effects. This is a widely accepted concept, but limited in application due to lack of available technologies and process of validation. Biomedical nanotechnology can play an important role in this respect. Biomedical nanotechnology is a burgeoning field with myriad of opportunities and possibilities for advancing medical science and disease treatment. Cancer nanotechnology (1-100 nm size range) is expected to change the very foundations of cancer treatment, diagnosis and detection. Nanomaterials, especially gold nanoparticles (AUNPs) have unique physico-chemical properties, such as ultra small size, large surface area to mass ratio, and high surface reactivity, presence of surface plasmon resonance (SPR) bands, biocompatibility and ease of surface functionalization. In this review, we will discuss how the unique physico-chemical properties of gold nanoparticles may be utilized for targeted drug delivery in pancreatic cancer leading to increased efficacy of traditional chemotherapeutics. (C) 2009 Elsevier B.V. All rights reserved.

Keywords
Author Keywords: Gold nanoparticles, Drug delivery, EGFR, Tyrosine kinase; Anti-Cancer drugs; Pancreatic cancer, Colloidal gold nanoparticles; AUNPs; Fabrication; Targeted therapy

KeyWords Plus: EPIIDERMAL-GROWTH-FACTOR; HER2-POSITIVE BREAST-CANCER, TYROSINE KINASE INHIBITORS; RECEPTOR MONOCLONAL-ANTIBODY; HEPATIC MALIGNANT NEOPLASMS; HEDGEHOG SIGNALING PATHWAY; PREDICT DISEASE RECURRENT; FUNGUS FUSARIUM-OXYSPORUM; METASTASIS-RELATED GENES; SOUTHWEST-CANCER-GROUP

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