

Near-Universal Cure For Malignant Tumors

by James Summerton, Ph.D.
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The Challenges:

1. Target all malignant tumors.
2. Destroy the entire tumor to prevent relapses.
3. Avoid harming patient.

The means:

1. Virtually all malignant tumors contain hypoxic/**acidic** areas.
Onco-tools are specially designed to only enter cells in such **acidic** areas.
This allows one to target all malignant tumors.
2. Malignant tumors contain both treatment-resistant quiescent cells in hypoxic/acidic areas and treatment-sensitive fast-dividing cells in better oxygenated areas.
 - (a) **Onco-tools** containing an alpha-emitting radioisotope (Astatine-211) completely destroy the treatment-resistant quiescent cells in hypoxic/acidic areas of the tumor.
 - (b) **Onco-tools** containing a beta-emitting radioisotope (eg., Iodine-130) kill the treatment-sensitive fast-dividing cells in better-oxygenated areas of the tumor.Thus, by using a combination of **onco-tools** containing two different radioisotope cargos one can completely destroy the entire tumor, thereby preventing relapses.
3. Three means will be used to avoid harming the patient.
 - (a) Use therapeutic **onco-tools** that are uniquely designed to provide unprecedented specificity for acidic areas.
 - (b) Optimize known methods for increasing acidity in tumors.
 - (c) Optimize known methods for avoiding acidity in non-tumor areas.
 - (i) proximal tubules of kidneys
 - (ii) areas of inflammation
 - (iii) non-tumor hypoxic areas

I am looking for collaborators
interested in pursuing items in red

Prior art acid-targeted agents currently used in the clinic (11C-DMO and chlorambucil)
provide a 6-fold to 8-fold preference for acidic areas of tumor
compared to normal tissues.

Acid-targeted **onco-tools**
provide a 30-fold to 300-fold preference for acidic areas of tumor
compared to normal tissues.

[The first **onco-tool** will be available as a research reagent in 2008]

Return to: www.onco-tools.com