Lawrence Berkeley National Laboratory
Recent Work

Title
CRADA Final Report: ErbB2 Targeted Cancer Therapeutics

Permalink
https://escholarship.org/uc/item/5d71b8hr

Author
Lupu, Ruth

Publication Date
2002-08-27
1. Parties: Coulter Pharmaceuticals and UC Regents/LBNL

2. Title of the Project: "ErbB2 Targeted Cancer Therapeutics"

3. Summary of the specific research and project accomplishments:
   A number of better peptido mimetic agents were generated but unfortunately not sufficient activity was retained to generate a therapeutic derived tool.
   
   Monoclonal antibodies were made, no significant improvements was made on the collaborator site.

4. Deliverables:

<table>
<thead>
<tr>
<th>Deliverable Achieved</th>
<th>Party (LBNL, Participant, Both)</th>
<th>Delivered to Other Party?</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

5. Identify publications or presentations at conferences directly related to the CRADA?

No publications were made

6. List of Subject Inventions and software developed under the CRADA:

None

7. A final abstract suitable for public release:

The aim of the study was to design novel therapeutic strategies for the treatment of carcinomas which overexpress the erbB-2 oncogene product and/or the activator (HRG). erbB-2 is a tyrosine kinase growth factor receptor, that overexpression of which in invasive breast, prostate, ovarian and lung carcinomas correlates with poor prognosis and poor overall survival. In breast carcinomas, erbB-2 is overexpressed in 25%-30% of the invasive phenotype and in 70% of ductal carcinomas in situ. On the other hand, the erbB-2 activator, heregulin (HRG) is expressed in about 30% of invasive breast carcinomas and it is highly expressed in other carcinomas including, ovarian, lung, and prostate. Interestingly, only 6% of invasive breast carcinomas co-express both HRG and erbB-2. It is known today that tumors that overexpress erbB-2 are a leading cause of death, making erbB-2 and its activator HRG critical targets for therapy. Targeting both the receptors and the activator would be beneficial for a significant number of cancer patients. At the final stages of the project we had obtained significant improvements over the peptide quality but not significant improvements were made towards the generation of humanized monoclonal antibodies.
8. **Benefits to DOE, LBNL, Participant and/or the U.S. economy.**

The collaboration will provide a great deal of synergy to quickly develop lead compounds for clinical development. Coulter is excited about having the benefit of Dr. Lupu's expertise, technology, and materials. Particularly, Dr. Lupu will be key to provide experimental leads based on biological assays that Coulter can make humanized antibodies, peptides, peptidomimetics, and small molecules with Coulter's strengths in protein and medicinal chemistry. This will then lead into Coulter's strong clinical development group that has a proven track record of clinical introduction.

9. **Financial Contributions to the CRADA:**

<table>
<thead>
<tr>
<th>Contribution Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOE Funding to LBNL</td>
<td>$540,000</td>
</tr>
<tr>
<td>Participant Funding to LBNL</td>
<td>$240,000</td>
</tr>
<tr>
<td>Participant In-Kind Contribution Value</td>
<td>$590,000</td>
</tr>
<tr>
<td>Total of all Contributions</td>
<td>$1,370,000</td>
</tr>
</tbody>
</table>
DISCLAIMER

This document was prepared as an account of work sponsored by the United States Government. While this document is believed to contain correct information, neither the United States Government nor any agency thereof, nor the Regents of the University of California, nor any of their employees, makes any warranty, express or implied, or assumes any legal responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by its trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof, or the Regents of the University of California. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof or the Regents of the University of California.