

Oncogene-Induced Apoptosis in Drug-Resistant Cells

Docket Code: Lazebnik01

Inventors

Yuri Lazebnik, Ph.D.; Howard O. Fearnhead, Ph.D.; Scott W. Lowe, Ph.D.; Mila E. McCurrach, Ph.D.

PI: Yuri Lazebnik, Ph.D., Professor at Cold Spring Harbor Laboratory

Summary

One of the most formidable challenges in cancer treatment is developing a means to selectively kill cancer cells, especially those that have become drug-resistant. Because these cells tend to have defective apoptotic (cell-death inducing) machinery, stimulating this natural process has been difficult. This invention provides a method whereby a compound can be identified that will modulate cell death. By using a control for comparison, the impacts of a specific compound can be readily observed by viewing the activity of a specific protease, ILP, which has been linked to the activation of apoptosis. The ability to inhibit or encourage apoptosis makes this method versatile, offering possible therapeutic and preventive treatment for cancer and neurodegenerative diseases alike.

Applications

- Treatment and prevention of cancer
- Treatment and prevention of neurodegenerative diseases
- Further research about apoptosis

Advantages

- Identifies compounds that will selectively modulate cell death in affected areas, enabling both inhibiting and encouraging of the apoptotic process
- Useful both therapeutically and preventively

State of Development

The assay method outlined in this patent has already been proven effective and patented. The development of an acceptable pharmaceutical carrier for a compound to modulate cell death remains to be completed.

R&D Required

Specification of the ideal compounds for inhibiting or encouraging cell death, formation of a proper pharmaceutical preparation for the compound, human studies

Licensing Potential

Cold Spring Harbor Laboratory seeks to develop and commercialize via an exclusive or non-exclusive license agreement and/ or sponsored research with a company active in the area of apoptosis studies or cancer research.

Contact Information

Jason Li-Min Wen, Ph. D, MBA
Office of Technology Transfer
One Bungtown Road
Nichols Building
PO Box 100
Cold Spring Harbor, NY 11724
wenj@cshl.edu
Tel. (516) 367-6885
Fax. (516) 367-8435

Patent Status

United States Patents 5,897,992 “Cell-free assay using oncogene-induced apoptosis in drug-resistant cells” issued April 27, 1999; 6,670,139 “Cell-free assay using oncogene-induced apoptosis to identify inhibitors of apoptosis in drug-resistant cells” issued December 30, 2003; 6,555,330 “Oncogene-induced apoptosis in drug-resistant cells” issued April 29, 2003.

Related Publications

Lazebnik, Yuri, et. al. Cell-free assay using oncogene-induced apoptosis to identify inhibitors of apoptosis in drug-resistant cells. US Patent Publication 6,670,139 accessible at <http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnethtml%2FPTO%2Fsearchbool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=6670139&OS=6670139&RS=6670139>, published December 30, 2003

Lazebnik, Yuri, et. al. Oncogene-induced apoptosis in cancer-resistant cells. US Patent Publication 6,555,330 accessible at <http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnethtml%2FPTO%2Fsearchbool.html&r=2&f=G&l=50&co1=AND&d=PTXT&s1=6555330&OS=6555330&RS=6555330>, published April 29, 2003

Lazebnik, Yuri, et. al. Cell-free assay using oncogene-induced apoptosis in drug-resistant cells. US Patent Publication 5,897,992 accessible at <http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnethtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=5897992.PN.&OS=PN/5897992&RS=PN/5897992>, published April 27, 1999