

PATENT ASSIGNMENT

Electronic Version v1.1

Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT														
NATURE OF CONVEYANCE:	ASSIGNMENT														
CONVEYING PARTY DATA															
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 70%;">Name</th> <th style="width: 30%;">Execution Date</th> </tr> </thead> <tbody> <tr> <td>Craig J. Thomas</td> <td>10/21/2009</td> </tr> <tr> <td>Douglas S. Auld</td> <td>10/21/2009</td> </tr> <tr> <td>James Inglese</td> <td>10/21/2009</td> </tr> <tr> <td>Amanda P. Skoumbourdis</td> <td>10/16/2009</td> </tr> <tr> <td>Jian-Kang Jiang</td> <td>10/21/2009</td> </tr> <tr> <td>Matthew Boxer</td> <td>10/21/2009</td> </tr> </tbody> </table>		Name	Execution Date	Craig J. Thomas	10/21/2009	Douglas S. Auld	10/21/2009	James Inglese	10/21/2009	Amanda P. Skoumbourdis	10/16/2009	Jian-Kang Jiang	10/21/2009	Matthew Boxer	10/21/2009
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RECEIVING PARTY DATA															
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Name:</td> <td>The United States of America, as represented by the Secretary, Department of Health and Human Services</td> </tr> <tr> <td>Street Address:</td> <td>Office of Technology Transfer, National Institutes of Health</td> </tr> <tr> <td>Internal Address:</td> <td>6011 Executive Boulevard, Suite 325, MSC 7660</td> </tr> <tr> <td>City:</td> <td>Bethesda</td> </tr> <tr> <td>State/Country:</td> <td>MARYLAND</td> </tr> <tr> <td>Postal Code:</td> <td>20892-7660</td> </tr> </table>		Name:	The United States of America, as represented by the Secretary, Department of Health and Human Services	Street Address:	Office of Technology Transfer, National Institutes of Health	Internal Address:	6011 Executive Boulevard, Suite 325, MSC 7660	City:	Bethesda	State/Country:	MARYLAND	Postal Code:	20892-7660		
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PROPERTY NUMBERS Total: 1															
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CORRESPONDENCE DATA															
<p>Fax Number: (312)616-5700</p> <p><i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i></p> <p>Phone: 312-616-5600</p> <p>Email: email@leydig.com</p> <p>Correspondent Name: John Kilyk, Jr.</p> <p>Address Line 1: Two Prudential Plaza, Suite 4900</p> <p>Address Line 2: 180 North Stetson Avenue</p> <p>Address Line 4: Chicago, ILLINOIS 60601-6731</p>															

CH \$40.00 US0960237

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PATENT
REEL: 023416 FRAME: 0316

ATTORNEY DOCKET NUMBER:	CHM002309/EKM
NAME OF SUBMITTER:	John Kilyk, Jr.
<p>Total Attachments: 14</p> <p>source=US0960237#page1.tif</p> <p>source=US0960237#page2.tif</p> <p>source=US0960237#page3.tif</p> <p>source=US0960237#page4.tif</p> <p>source=US0960237#page5.tif</p> <p>source=US0960237#page6.tif</p> <p>source=US0960237#page7.tif</p> <p>source=US0960237#page8.tif</p> <p>source=US0960237#page9.tif</p> <p>source=US0960237#page10.tif</p> <p>source=US0960237#page11.tif</p> <p>source=US0960237#page12.tif</p> <p>source=US0960237#page13.tif</p> <p>source=US0960237#page14.tif</p>	

**ASSIGNMENT FOR NIH/FDA INVENTIONS
(NIH OR FDA CO-INVENTORS ONLY)**

WHEREAS, we, Craig J. Thomas, Douglas S. Auld, James Inglese, Amanda P. Skoumbourdis, Jian-Kang Jiang, and Matthew Boxer, employees of the National Institutes of Health, a component of the United States Department of Health and Human Services having an address at the Office of Technology Transfer, National Institutes of Health, 6011 Executive Boulevard, Suite 325, MSC 7660, Bethesda, MD 20892-7660, [hereinafter **The Inventors**], have executed an International Application for a U.S. patent, having International Patent Application Number PCT/US09/60237, filed October 9, 2009, and which is entitled "ACTIVATORS OF HUMAN PYRUVATE KINASE" ("patent application") and;

WHEREAS, we are the applicants named in the above-identified patent. application; and

WHEREAS, the inventions described and claimed therein were made under conditions such as to entitle **THE UNITED STATES OF AMERICA, as represented by the Secretary, Department of Health and Human Services** [hereinafter **THE GOVERNMENT**] under Executive Order 10096 and its amendments, 35 USC §§200-201, §§206-207, and §210 and 37 CFR Part 501 to the entire right, title, and interest in such inventions; and

WHEREAS, THE GOVERNMENT is desirous of acquiring all domestic and foreign right, title, and interest in the inventions described and claimed in the patent application; and

NOW, THEREFORE, having the legal obligation to assign our right, title and interest in the inventions described and claimed in the above-identified patent application to **THE GOVERNMENT**, having a place of business at the Office of Technology Transfer, National Institutes of Health, 6011 Executive Boulevard, Suite 325, MSC 7660, Bethesda, MD 20892-7660 and for consideration, the receipt and sufficiency of which are hereby acknowledged, we hereby assign and transfer to **THE GOVERNMENT**:

the entire right, title, and interest in and to any and all inventions described and claimed in said patent application and any and all Letters Patents which may be granted thereon, and any and all continuations, divisions, reissues or extensions thereof; and

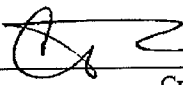
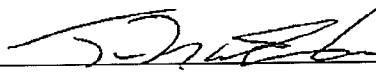

all rights to claim priority on the basis of said patent. application including but not limited to applications filed through the provisions of the Patent Cooperation Treaty ("PCT Applications"); and

all applications for Letters Patents that may be filed for any and all inventions described and claimed in said patent. application that may be filed in any foreign country and all Letters Patents that may be granted thereon in any foreign country and all extensions, renewals, and reissues thereof; and

any and all such Letters Patents as may be granted in the United States or any foreign country to be held by **THE GOVERNMENT** to the end of the term for which the same would have been held by the inventors had this assignment not been made.

we further agree to make, execute, and deliver to **THE GOVERNMENT**, upon request, any and all papers, documents, affidavits, or other instruments that may be necessary in the prosecution of any application or applications for improvements or reissues of Letters Patents, and to assist **THE GOVERNMENT** in every way as may be requested in protecting said inventions.

IN WITNESS WHEREOF we subscribe our hands and seals on the dates shown below:

Inventor 1:	
<u>10/21/09</u> Date	 Craig J. Thomas
County of <u>Montgomery</u>	
State of <u>MD</u>	
Subscribed and sworn to before me this <u>24</u> day of <u>October</u> , <u>2009</u> .	
[Seal]	 Notary Public for <u>Montgomery</u> County, MD My Commission Expires: _____  JUHAK LEE NOTARY PUBLIC MONTGOMERY COUNTY MARYLAND MY COMMISSION EXPIRES JUNE 8, 2010

Inventor 2:	
<u>10/21/2009</u> Date	<u>Douglas S. Auld</u> Douglas S. Auld
County of <u>Montgomery</u>	
State of <u>MD</u>	
Subscribed and sworn to before me this <u>21</u> day of <u>October</u> , <u>2009</u>	
[Seal]	<u>[Signature]</u> Notary Public for <u>Montgomery County, MD</u> My Commission Expires: _____



JUHAK LEE
NOTARY PUBLIC
MONTGOMERY COUNTY
MARYLAND

MY COMMISSION EXPIRES JUNE 9, 2010

Inventor 3:

10/21/09
Date

James Inglese
James Inglese

County of Montgomery

State of MD

Subscribed and sworn to before me this 21 day of October, 2009.

[Seal]

[Signature]
Notary Public for Montgomery County, MD
My Commission Expires: _____



JUNHAK LEE
NOTARY PUBLIC
MONTGOMERY COUNTY
MARYLAND
MY COMMISSION EXPIRES JUNE 9, 2010

Inventor 4:

Date

Amanda P. Skourmbourdis

County of _____

State of _____

Subscribed and sworn to before me this ____ day of _____, _____.

[Seal]

Notary Public for _____

My Commission Expires: _____

Inventor 5:

10/24/09
Date

Jian-Kang Jiang
Jian-Kang Jiang

County of Montgomery

State of MD

Subscribed and sworn to before me this 24 day of October, 2009.

[Seal]

Juhak Lee
Notary Public for Montgomery County, MD
My Commission Expires: _____



JUHAK LEE
NOTARY PUBLIC
MONTGOMERY COUNTY
MARYLAND
MY COMMISSION EXPIRES JUNE 9, 2010

Inventor 6:

10/21/09

Date



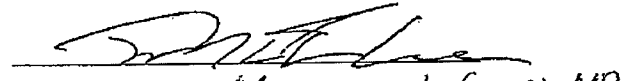
Matthew Boxer

County of Montgomery

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IN WITNESS WHEREOF we subscribe our hands and seals on the dates shown below:

Inventor 1:

Date

Craig J. Thomas

County of _____

State of _____

Subscribed and sworn to before me this ____ day of _____, ____.

[Seal]

Notary Public for _____

My Commission Expires: _____

Inventor 2:

Date

Douglas S. Auld

County of _____

State of _____

Subscribed and sworn to before me this ____ day of _____, ____.

[Seal]

Notary Public for _____

My Commission Expires: _____

Inventor 3:

Date James Inglese

County of _____

State of _____

Subscribed and sworn to before me this _____ day of _____, _____.

[Seal] _____
Notary Public for _____
My Commission Expires: _____

Inventor 4:

10/16/2009

Date

Amanda P. Skoumbourdis

Amanda P. Skoumbourdis

County of Mercer

State of NJ

Subscribed and sworn to before me this 16 day of Oct., 2009

[Seal]

Houa G. G. G.

Notary Public for Mercer County

My Commission Expires: 2013

MARIA CASTALDO
ID # 2218426
NOTARY PUBLIC OF NEW JERSEY
Commission Expires 10/6/2013

Inventor 5:

Date

Jian-Kang Jiang

County of _____

State of _____

Subscribed and sworn to before me this ____ day of _____, ____.

[Seal]

Notary Public for _____

My Commission Expires: _____

Inventor 6:

Date

Matthew Boxer

County of _____

State of _____

Subscribed and sworn to before me this ____ day of _____, ____.

[Seal]

Notary Public for _____

My Commission Expires: _____