### PATENT ASSIGNMENT

### Electronic Version v1.1 Stylesheet Version v1.1

SUBMISSION TYPE:		NEW ASSIGNMENT	
NATURE OF CONVEYANCE:		ASSIGNMENT	
CONVEYING PARTY	DATA		
Name Execution Date			Execution Date
Nordine CHEIKH			12/03/2009
Jingdong LIU			12/02/2009
RECEIVING PARTY DATA			
Name:	Monsanto Techno	logy LLC	
Street Address:	800 N. Lindbergh		
City:	St. Louis		
State/Country:	MISSOURI		
Postal Code:	63167		
PROPERTY NUMBERS Total: 1			
Property T		Number	048
Application Number:	093	00482	09300482
CORRESPONDENCE	DATA		
Fax Number:	(202)942-59	99	\$40.00
Correspondence will l	be sent via US Mail	when the fax attempt is unsuccessful.	\$4
Phone:	(202) 942-53		CH
Correspondent Name: Arnold & Porter LLP			
Address Line 1			
Address Line 1:			
Address Line 1: Address Line 2: Address Line 4:	Attn: IP Doc		
Address Line 2: Address Line 4:	Attn: IP Doc Washington	teting DISTRICT OF COLUMBIA 20004-1206	
Address Line 2:	Attn: IP Doc Washington	keting	
Address Line 2: Address Line 4:	Attn: IP Doc Washington	teting DISTRICT OF COLUMBIA 20004-1206	

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#### ASSIGNMENT

WHEREAS, I/WE, the undersigned, have made certain invention or inventions which are disclosed in patent application(s) and/or provisional patent application(s) entitled:

Nucleic Acid Molecules and Other Molecules Associated with the Phosphogluconate Pathway

identified as U.S. Application No. 09/300,482 and filed on April 28, 1999

WHEREAS, Monsanto Technology LLC, of St. Louis, Missouri, a Corporation of the State of Delaware, is desirous of acquiring the entire right, title and interest in and to said invention or inventions and any and all patents to be obtained therefor;

NOW, THEREFORE, FOR GOOD AND VALUABLE CONSIDERATION, the receipt of which is hereby acknowledged, I/WE do hereby sell, assign and transfer to said Monsanto Technology LLC, its successors and assigns, the entire right, title and interest in and to said invention or inventions, in any form or embodiment thereof, and in and to said application(s); and in and to any and all applications filed in any country based thereon, including the right to file applications in countries other than the country of priority filing under the provisions of any international convention; also in and to any and all improvements on said invention or inventions now or hereafter made by me/us as employee(s), agent(s) or contractor(s) of said Monsanto Technology LLC; also the entire right, title and interest in and to any and all patents, including reissues and extensions thereof, to be obtained in any country upon said invention, inventions or improvements, and any and all continuing applications, including divisional, continuation and continuation-in-part applications, substitute applications, and applications claiming benefit of an earlier filed provisional application, which may be filed upon said invention, inventions or improvements in any country; and

I/WE hereby authorize and request the issuing authority to issue any and all patents on said application or applications to said Monsanto Technology LLC, as assignee of the entire interest.

I/WE further agree, without any payment by Monsanto Technology LLC other than in reimbursement of reasonable expenses I/we may incur, to communicate to said Monsanto Technology LLC, its representatives or agents, any facts relating to said invention, inventions or improvements, including evidence for purposes of interference, opposition or other legal proceedings, whenever requested; testify in any interference, opposition or other legal proceedings, whenever requested; and execute and deliver, on request, all lawful papers required to make any of the foregoing provisions effective.

PATENT REEL: 023614 FRAME: 0140

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Attorney Docket No. 38-21(15365)0001
IN TESTIMOND WHEREOF I/WE have hereto set our hands on the dates set after our signatures. Signature:
State of <u>Musicuu</u> County of <u>H. Aeuus</u> On this <u>3</u> day of <u>December</u> , 2009, before me personally appeared instrument and acknowledged that he/she executed the same as his/her free act and deed; in testimony whereof I have hereto set my hand and official seal on the day last above written.
(seal) <u>Statie &amp; Williams</u> Notary Public or Consular Officer
My Commission expires <u>July 9, 2013</u> SEAL <b>GRACIE L WILLIAMS</b> My Commission Expires July 9, 2013 St. Louis County Commission #09403322

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Signature:	Date:
-	
City and state or country	of residence:
State of	) } cc
State of County of	
On this day of	, 2009, before me personally appeared, known to me to be the person who executed the foregoing
instrument and acknowledged th	hat he/she executed the same as his/her free act and deed; in testimony ad and official seal on the day last above written.
(seal)	
	Notary Public or Consular Officer
My Commission expires	

IN TESTIMONY WHEREOF, I/WE have hereto set our hands on the dates set after our signatures.

Signature:	,-	Date:
•	M. PESCHKE	
State of	} } ss	
State of	J	
On this d	ay of know	, 2009, before me personally appeared on to me to be the person who executed the foregoing
instrument and acknowle	dged that he/she exec	cuted the same as his/her free act and deed; in testimony seal on the day last above written.
(seal)		
	Notary Pu	blic or Consular Officer

IN TESTIMONY WHEREOF, I/WE have hereto set our hands on the dates set after our signatures.

My Commission expires \_\_\_\_\_

PATENT REEL: 023614 FRAME: 0143

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#### ASSIGNMENT

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Nucleic Acid Molecules and Other Molecules Associated with the Phosphogluconate Pathway

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NOW, THEREFORE, FOR GOOD AND VALUABLE CONSIDERATION, the receipt of which is hereby acknowledged, I/WE do hereby sell, assign and transfer to said Monsanto Technology LLC, its successors and assigns, the entire right, title and interest in and to said invention or inventions, in any form or embodiment thereof, and in and to said application(s); and in and to any and all applications filed in any country based thereon, including the right to file applications in countries other than the country of priority filing under the provisions of any international convention; also in and to any and all improvements on said invention or inventions now or hereafter made by me/us as employee(s), agent(s) or contractor(s) of said Monsanto Technology LLC; also the entire right, title and interest in and to any and all patents, including reissues and extensions thereof, to be obtained in any country upon said invention, inventions or improvements, and any and all continuing applications, including divisional, continuation and continuation-in-part applications, substitute applications, and applications claiming benefit of an earlier filed provisional application, which may be filed upon said invention, inventions or improvements in any country; and

I/WE hereby authorize and request the issuing authority to issue any and all patents on said application or applications to said Monsanto Technology LLC, as assignee of the entire interest.

I/WE further agree, without any payment by Monsanto Technology LLC other than in reimbursement of reasonable expenses I/we may incur, to communicate to said Monsanto Technology LLC, its representatives or agents, any facts relating to said invention, inventions or improvements, including evidence for purposes of interference, opposition or other legal proceedings, whenever requested; testify in any interference, opposition or other legal proceedings, whenever requested; and execute and deliver, on request, all lawful papers required to make any of the foregoing provisions effective.

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PATENT REEL: 023614 FRAME: 0144

Signature:	Date:
Name: <u>Nordine CHEIKH</u>	
City and state or country o	f residence:
State of	
State of	/ ss. }
On this day of	, 2009, before me personally appeared, known to me to be the person who executed the foregoing
instrument and acknowledged that	t he/she executed the same as his/her free act and deed; in testimony and official seal on the day last above written.
(seal)	
	Notary Public or Consular Officer

IN TESTIMONY WHEREOF, I/WE have hereto set our hands on the dates set after our signatures.

My Commission expires \_\_\_\_\_

### PATENT REEL: 023614 FRAME: 0145

IN TESTIMONY WHEREOF, I/WE have hereto set our hands on the dates set after our signatures.	
Signature: Date: Date:	
Name: Jingdong LIU	
City and state or country of residence: Chesteffeld, Mo	
State of Missouri	
County of St. Jonis Ss.	
On this <u>adday of</u> <u>Alcember</u> , 2009, before me personally appeared <u>Jivadowa Liv</u> , known to me to be the person who executed the fore	going
instrument and acknowledged that he/she executed the same as his/her free act and deed; in testi whereof I have hereto set my hand and official seal on the day last above written.	mony
(seal)	
Notary Public or Consular Officer	
My Commission expires $3/14/2011$	
PATRICIA E. BESTE Notary Public - Notary Seal	

State of Missouri St. Louis County Commission Number 07009875 My commission expires February 14, 2011

PATENT REEL: 023614 FRAME: 0146

Signature:		Date:
Name: <u>Virginia M. I</u>	ESCHKE	
City and state or cour	try of residence:	
State of	1	
State of County of	} ss.	
On this day o	f	, 2009, before me personally appeared me to be the person who executed the foregoing
instrument and acknowledge whereof I have hereto set my	d that he/she executed the	he same as his/her free act and deed; in testimony
(seal)		
	Notary Public or	Consular Officer

IN TESTIMONY WHEREOF, I/WE have hereto set our hands on the dates set after our signatures.

My Commission expires \_\_\_\_\_

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