Substitute Form PTO-1595 Attorney Docket No.: 06501-093001

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1. Name of conveying particlises.	•	Name and address of receiving party(ies):
Name of conveying party(ies):		
Kazuya Mitsuhashi, Hiroaki Yamamoto and Norihiro Kimoto Additional name(s) attached? □ Yes 図 No		Daicel Chemical Industries, Ltd. 1 Teppo-cho, Sakai-shi Osaka 590-8501 JAPAN
Execution Date: January 30, 2002		Additional names/addresses attached? ☐ Yes ☒ No
4. Application number(s) or pate	nt number(s):	
	d with a new application, the execu	ution date of the application is:
A. Patent Application No(s).:		B: Patent No(s).:
09/996,008		五 号 岩
00/330,000	Additional numbe	rs attached? ☐ Yes 図 No
5. No. 27-11		
Name/address of party to who document should be mailed:	om correspondence concerning	6. Total number of applications/patents involved: 1
JANIS K. FRASER, PH		7. Total fee (37 CFR §3.41): \$40
Fish & Richardson P.C. 225 Franklin Street		☑ Enclosed ☐ Authorized to charge Deposit Account. ☐ 🙃 🛱
Boston, Massachusett	s 02110-2804	8. Deposit Account No.: 06-1050
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Janis K. Fraser, Ph.D., J. Reg. No. 34,819 Name of Person Signing 20397084.doc	the best of my knowledge ie copy of the original docui	and belief, the foregoing information is true and correct arment. A
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PATENT

REEL: 012718 FRAME: 0226

ASSIGNMENT

For valuable consideration, we, <u>KAZUYA MITSUHASHI</u> of <u>Niigata, Japan, HIROAKI YAMAMOTO</u> of <u>Ibaraki, Japan</u>, and <u>NORIHIRO KIMOTO</u> of <u>Ibaraki, Japan</u>, hereby assign to: Daicel Chemical Industries, Ltd., a <u>Japanese</u> corporation having a place of business at:

1, Teppo-cho, Sakai-shi Osaka 590-8501 JAPAN; and

its successors and assigns (collectively hereinafter called "the Assignee"), the entire right, title and interest throughout the world in the inventions and improvements which are subject of an application for United States Patent signed by us, entitled MUTANTS OF MYCOBACTERIUM VACCAE-DERIVED FORMATE DEHYDROGENASE AND USES THEREOF, filed November 28, 2001, and assigned U.S. Serial Number 09/996,008, this assignment including said application, any and all United States and foreign patents, utility models, and design registrations granted for any of said inventions or improvements, and the right to claim priority based on the filing date of said application under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other treaties of like purposes; and we authorize the Assignee to apply in all countries in our name or in its own name for patents, utility models, design registrations and like rights of exclusion and for inventors' certificates for said inventions and improvements; and we agree for ourselves and our respective heirs, legal representatives and assigns, without further compensation to perform such lawful acts and to sign such further applications, assignments, Preliminary Statements and other lawful documents as the Assignee may reasonably request to effectuate fully this assignment.

> PATENT REEL: 012718 FRAME: 0227

IN WITNESS WHEREOF, I hereto set my hand and sear at 1011gc/cc/	
this 30th day of Tanuary , 2002	,
KAZUYA MITSUHASHI	L.S.
KAZWYA MITSUHASHI	
n = n = n = n	
Witnessed by: Malsuyama	
Name: Akinobu Matsuyama Date: January 30, 2002	
Witnessed by:	
Name: Tukashi Date: Toki	
Pate: 10121	
IN WITNESS WHEREOF, I hereto set my hand and seal at Ibayaki, JAPAN	,
this 30 th day of January , 2002	
rderoaki Yananolo	_ L.S.
HIROAKI YAMAMOTO	
Witnessed by: <u>Ukinobu Matsuyama</u> Name: Akinobu Matsuyama Date: <u>January</u> 30, 2002	
Witnessed by: Takushi Toki	
Name: Takashi Tok, Date: January 30, 7002	

PATENT REEL: 012718 FRAME: 0228

IN WITNESS WHEREOF, I hereto set my hand and seal at Ibaraki, JAPAN	,
this 30 th day of January, 2002	
northiro demoto	L.S.
NORIHIRO KIMOTO	_
Witnessed by: <u>Minobi Matsuyama</u> Name: <u>Akinobu Matsuyama</u> Date: <u>January</u> 30, 2002	
Witnessed by: Jakashi Jaki	
Name: Takashi Taki Date: January 30.2002	

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RECORDED: 03/18/2002

PATENT REEL: 012718 FRAME: 0229