Form PTO-1595	RECORDATION FOR		U.S. DEPARTMENT OF COMMERCE
(Rev. 07/05)	" PATENTS	ONLY	U.S. Patent and Trademark Office
OMB No. 0651-0027 (exp. 6/30/2208	5)		Chiron Did No - BB0046444 6060
 			Chiron Dkt. No.: PP0016141.0003
,	nts and Tredemarks: Please rec	<u>ord the attached original d</u> I	locuments or copy thereof.
Name of conveying party(ies):		2 Name and address a	of receiving marty/lock
ZUCKERMANN DARLEN		Name and address of Name:	u receiving harry(ies)
ZUCKERMANN, Ronald N.		Troine.	
REINHARD, Christoph J. JEFFERSON, Anne B.		Chiron Corpora	ition
BEAUSOLEILI Eric		·•	perty Dept R-338
BEAUSULEIL, Enc		4560 Horton Str	
		Emeryville, CA	94608-2916
		Other	
Additional name(s of conveying part	ty(ies) attached? ☐ Yes 🗵 No		
3, Nature of conveyance:			
		Additional name(s) 8	k address(es) attached? ☐ Yes ☒ No
Assignment Assignment	☐ Merger		
Security Agreement	Change of Name		
☐ Joint Research Agreement	Other		
Government Interest Assignment			
Executive Order 9424, Confirmat	ory License		
	-		
Execution Date(s): February 5, 2001, N	March 6, 2001, March 6, 2001 and		
January (6, 2001 4. Application number(s) or patent n	umhor/o\		
If this document is being filed tog		execution date of the anni	ication is:
A. Patent Application No.(s)	edier with a view approparch, the		
' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '			
U.S. Application No. 10	/025,423		
Filing Date: December	18, 2001		
		l	
	Additional number(s) att	ached 🗆 Yes 🗵 No	
5. Name and address of party to wh		5 Teroi oumbor of peetings	ons and patents involved 1
concerning document should be	mailed:	g. Loggi number oj applicati	ons and patents involved [II]
NOVARTIS VACCINES & DIA	AGNOSTICS, INC.		
Corporate Intellectual Prop		7. Total fee (37 CFR 3.4	41) \$40.00
P.O. Box 8097		Enclosed	
Emeryville, CA 94662-8097		Authorized to be	charged to deposit account,
	·		
		8. Deposit account num	ber: 03-1664
			of this page if paying by deposit
		account)	
	DO NOT USE T	HIS SPACE	" a. '
	DO NOT OBE 1	ING OF NOL	
9. Statement and signature.			
		rmation is true and corre	ect and any attached copy is a true
copy of the original documen	t 1/a .	1 001	. / /
Marcallo I III o (Bon No 30	5021 - 1/Vleual	Moter Ul.	6/9/06
Marcella I IIIIs (Reg. No. 36, Namo of Person Bigning	Sionat	ure	Date
	<i>-</i> -4.40		
	Fotal number of pages Including cover	sheet, attachments, and docu	ment 7
			0 = 0 04.00
			-273-0140) transmission to the United S
Patent and Trademark Office, ASSI	GNMENT RECORDATION S	ERVICES, on this <u>¶-4-</u> d	a <u>y</u> of <u>ليممالا</u> , 2006.

By: May h Sudm

PATENT

REEL: 017768 FRAME: 0885

510-655-3542

T-627 P.003/009 F-899

Atty. Docket No. 16141,001

ASSIGNMENT

WHEREAS, We, Ronald N. Zuckermann, Christoph J. Reinhard, Anne B. Jefferson, and Eric Beausolell, hereinafter referred to as ASSIGNORS, have invented certain new and useful improvements as described and set forth in the below-identified application for United States Letters Patent:

Title of Invention:

OLIGONUCLEOTIDE TRANSFECTION SCREENING METHOD

Date(s) of Execution: January 16, 2001, February 5, 2001,

Filing Date: December 21, 2000

and March 6, 2001

Serial No:

60/257,975

WHEREAS, CHIRON CORPORATION, 4560 Horton Street, Emeryville, California 94608-2916, a corporation of the State of Delaware, hereinafter referred to as ASSIGNEE, is desirous of acquiring the entire right, title and interest in the above invention and application and in any Letters Patent which thay be granted on the same;

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN: Be it known that, for and in consideration of the sum of One Dollar (\$1.00) lawful money paid to ASSIGNORS by ASSIGNEE, receipt of which is hereby acknowledged, ASSIGNORS have sold, assigned and transferred, and by these presents do sell, assign and transfer unto said ASSIGNEE, and ASSIGNEE'S successors and assigns, all right, title and interest in and to the said invention, said application for United States Letters Patent, and any Letters Patent which may hereafter be granted on the same in the United States and all countries throughout the world including any divisions, renewals, continuations in whole or in part, substitutions, conversions (including conversions claiming priority under 35 U.S.C. §119(e)), reissues, prolongations or extensions thereof, the said interest to be held and enjoyed by said ASSIGNEE as fully and exclusively as it would have been held and enjoyed by said ASSIGNORS had this assignment and transfer not been made, to the full end and term of any Letters Patent.

1

PATENT

Atty. Docket No. 16141.001

ASSIGNORS also agree that the U.S. application number may be entered above by ASSIGNEE or its agents upon designation of the application number by the U.S. Patent and Trademark Office.

ASSIGNEE'S expense, cooperate with ASSIGNEE in the prosecution of said application and/or applications, execute, verify, acknowledge and deliver all such further papers, including applications for Letters Patent and for the reissue thereof, and instruments of assignment and transfer thereof, and will perform such other acts as ASSIGNEE lawfully may request, to obtain or maintain Letters Patent for said invention and improvement in any and all countries, and to vest title thereto in said ASSIGNEE, or ASSIGNEE'S successors and assigns.

IN TESTIMONY WHEREOF, ASSIGNORS have hereunto signed their names to this assignment on the dates indicated below.

DATÉ 2/5/61

Ronald N Juckermann

DATE 3 (6 (0)

Christoph J. Reinhard

DATE 3/6/01

Ann B. Jefferson

DATE

Eric Reausoleil

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

	<u>3858603050000000000000000000000000000000</u>
State of California	
County of Alameda	
On January 16, 2001	before me,Elissa M. Nash
personally appeared Eric 1	Name and Title of Officer (e.g., "Jane Doe, Notary Public") Beausoleil,
	Name(s) of Signer(s) If proved to me on the basis of satisfactory evidence to be the person(s
ELISSA M. NASH Commission # 1262878 Notary Public - California Alameda County MyComm. Expires May 10, 200	WITNESS my hand and official seal.
fraudulent ren	OPTIONAL ed by law, it may prove valuable to persons relying on the document and could prevent moval and reattachment of this form to another document.
Description of Attached Do	ed by law, it may prove valuable to persons relying on the document and could prevent moval and reattachment of this form to another document.
Description of Attached Do Title or Type of Document:	ed by law, it may prove valuable to persons relying on the document and could prevent moval and reattachment of this form to another document.
Description of Attached Do Title or Type of Document: Document Date:	ed by law, it may prove valuable to persons relying on the document and could prevent moval and reattachment of this form to another document. Cument Number of Pages:
Description of Attached Do Title or Type of Document: Document Date: Signer(s) Other Than Named Above	ed by law, it may prove valuable to persons relying on the document and could prevent moval and reattachment of this form to another document. Cument Number of Pages:
Description of Attached Do Title or Type of Document: Document Date: Signer(s) Other Than Named Above Capacity(ies) Claimed by Si	ed by law, it may prove valuable to persons relying on the document and could prevent moval and reattachment of this form to another document. cument Number of Pages: e:
Description of Attached Do Title or Type of Document: Document Date: Signer(s) Other Than Named Above Capacity(ies) Claimed by Si Signer's Name:	ed by law, it may prove valuable to persons relying on the document and could prevent moval and reattachment of this form to another document. Cument Number of Pages: e: Signer's Name:
Description of Attached Do Title or Type of Document: Document Date: Signer(s) Other Than Named Above Capacity(ies) Claimed by Si Signer's Name: Individual	ed by law, it may prove valuable to persons relying on the document and could prevent moval and reattachment of this form to another document. Cument Number of Pages:e:
Description of Attached Do Title or Type of Document: Document Date: Signer(s) Other Than Named Above Capacity(ies) Claimed by Si Signer's Name: Individual	ed by law, it may prove valuable to persons relying on the document and could prevent moval and reattachment of this form to another document. Cument Number of Pages:e:
Description of Attached Do Title or Type of Document: Document Date: Signer(s) Other Than Named Above Capacity(ies) Claimed by Si Signer's Name:	ed by law, it may prove valuable to persons relying on the document and could prevent moval and reattachment of this form to another document. Cument Number of Pages:e:
Description of Attached Do Title or Type of Document: Document Date: Signer(s) Other Than Named Above Capacity(ies) Claimed by Si Signer's Name: Individual Corporate Officer Title(s): Partner — I Limited I General Attorney-in-Fact Trustee	Signer's Name: Individual Corporate Officer Title(s): Partner — Limited General Attorney-in-Fact Trustee Cigner's Name: Cigner's Name: Corporate Officer Corporate Officer Corporate General Corporate Corporate General Corporate Corpora
Description of Attached Do Title or Type of Document: Document Date: Signer(s) Other Than Named Above Capacity(ies) Claimed by Si Signer's Name: Individual Corporate Dfficer Title(s): Partner D Limited D General Attorney-in-Fact Trustee Guardian or Conservator	Number of Pages: Signer's Name: Individual Corporate Officer Title(s): Partner — Limited General Attorney-in-Fact Trustee Guardian or Conservator Signer Signer Signer Signer Corporator Conservator Signer Corporator Conservator Conservator
Description of Attached Do Title or Type of Document: Document Date: Signer(s) Other Than Named Above Capacity(ies) Claimed by Si Signer's Name: Individual Corporate Officer Title(s): Partner — I Limited I General Attorney-in-Fact Trustee	Signer's Name: Individual Corporate Officer Title(s): Partner — Limited General Attorney-in-Fact Trustee Cigner's Name: Cigner's Name: Corporate Officer Corporate Officer Corporate General Corporate Corporate General Corporate Corpora
Description of Attached Do Title or Type of Document: Document Date: Signer(s) Other Than Named Above Capacity(ies) Claimed by Si Signer's Name: Individual Corporate Officer Title(s): Deficer Attorney-in-Fact Trustee Guardian or Conservator Other: Other:	Signer's Name:
Description of Attached Do Title or Type of Document: Document Date: Signer(s) Other Than Named Above Capacity(ies) Claimed by Si Signer's Name: Individual Corporate Officer Title(s): Deficer Attorney-in-Fact Trustee Guardian or Conservator Other: Other:	Number of Pages: Signer's Name: Individual Corporate Officer Title(s): Partner — Limited General Attorney-in-Fact Trustee Guardian or Conservator Signer Signer Signer Signer Corporator Conservator Signer Corporator Conservator Conservator
Description of Attached Do Title or Type of Document: Document Date: Signer(s) Other Than Named Above Capacity(ies) Claimed by Si Signer's Name: Individual Corporate Dfficer Title(s): Partner D Limited D General Attorney-in-Fact Trustee Guardian or Conservator	Signer's Name:

_			
State of California)	
County ofAlam	ieda	> ss.	
		,	
o- Kobrusry 5 20	101	#licca M. Nach	
		Elissa M. Nash Name and Title of Officer (e.g., "Jane Doe, No	oxary Public")
personally appeared _	Ronald N. Zuc	kermann	
		personally known to me	
		proved to me on the basi	s of satisfactory
		evidence	*
		to be the person(6) whose	Die/6) Mamen
		subscribed to the within	instrument and
B	ISSA M. NASH	🛖 🛮 acknowledged to me_that(he)st	⊘ /th ⊘ executed
₹ Etherside St. Com	Mission & taxaoaa	the same in his her/th	
Alo	Meda Court	s capacity(iée), and that be signature(s) on the instrument	y (fils) Maga/the(ir
MyCorn	r. Expires May 10, 2004	the entity upon behalf of which	
		acted, executed the instrumen	
		WITNESS my hand and officia	Loool
		WITNESS THY HAITI AND OHICIA	i Seai.
		<u> </u>	
Place Notary Se	al Above	Signature of Notary Fluo	lie"
	c	OPTIONAL	
		law, it may prove valuable to persons relying	
		and reattachment of this form to another doc	umem.
Description of Attache		gnment for Case No. 16141.0	nn1
Document Date:		Number of Pages:	
 Bioner(s) Other Than Nam	ed Above:		
Capacity (ies) Claimed			RIGHT THUMBPRINT
nghers hanne D_Individual			OF SIGNER Top of thumb here
Gorporate Officer — Tit			TOP OF INDITIO FIGE
Partner — □ Limited □] Ģeneral		
Attorney in Fact			ļ
] Trustee] Guardian or Conservati	or		
		F 174.01	-
ligner le Representing			
ngner is mepresenting			

PATENT REEL: 017768 FRAME: 0889

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of C	California fAlameda } ss.
	rch 6, 2001, before me,Elissa M. Nash
	□ personally known to me □ proved to me on the basis of satisfactory evidence
	to be the person(s) whose name(s) is and subscribed to the within instrument and acknowledged to me that he sign authorized the same in his // for/the authorized capacity(iss), and that by his her/their signature(s) on the instrument the person(s) or the entity upon behalf of which the person(s) acted, executed the instrument.
	Place Notary Scal Above OPTIONAL
Descript	the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document. ion of Attached Document
Documen	pe of Document:
Signer(s)	Other Than Named Above:
Signer's N	r(ies) Claimed by Signer lame:
☐ Partne ☐ Attorne ☐ Truste	ate Officer — Title(s): r — □ Limited □ General ey in Fact
□ Other: Signer Is F	Representing:
exected	\$

© 1997 National Notary Association • 9350 De Sele Ave., P.O. 8ex 2402 • Chateworth, CA 91313-2402

Prod. No. 5907 Reorder: Call Toll-Free 1-500-676-6827

PATENT

REEL: 017768 FRAME: 0890

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT State of California Alameda County of On March 6, 2001 , before me, Elissa M. Nash ----Name and Title of Officer (e.g., "Jane Doe, Notzry Public") personally appeared ____Anne B. Jefferson -----Name(s) of Signer(s) ⊠Kpersonally known to me proved to me on the basis of satisfactory evidence to be the person whose name (s) (s) are subscribed to the within instrument and acknowledged to me that the she/they executed the same in his/fer their authorized HZAN JA AZZIJE Commission # 1262878 Notary Public - California capacity(1949), and that by (1967) (E) the Alameda County signature(s) on the instrument the person(s) or My Community Digites May 10, 2004 the entity upon behalf of which the person(s) acted, executed the instrument. WITNESS my hand and official seal. Place Notary Seal Above - OPTIONAL -Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document. Description of Attached Document Title or Type of Document: _____ _____ Number of Pages: _____ Dodumert Date: ___ Sigher(s)|Other Than Named Above: ___ Capacity(ies) Claimed by Signer Signer's Name: □ Individual ☐ Corpdrate Officer — Title(s): ____ □ Partner — □ Limited □ General Attorney in Fact. □ Trustele

© 1997 National Notary Association • 9350 De Soto Ave., P.O. Oox 2402 • Chatsworth, CA 91313-2402

Signer Is Representing: _______

Prod. No. 5907

Reorder: Call Toll-Free 1-800-876-6827

RECORDED: 06/09/2006

□ Other!

□ Guardian or Conservator

PATENT REEL: 017768 FRAME: 0891