

PATENT ASSIGNMENT COVER SHEET

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EPAS ID: PAT3791547

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
THERMO FISHER SCIENTIFIC BIOSCIENCES INC.	03/21/2014
RECEIVING PARTY DATA	
Name:	THERMO FISHER SCIENTIFIC INC.
Street Address:	81 WYMAN STREET
City:	WALTHAM
State/Country:	MASSACHUSETTS
Postal Code:	02451
PROPERTY NUMBERS Total: 3	
Property Type	Number
Application Number:	14936395
Application Number:	14937607
Application Number:	14936403
CORRESPONDENCE DATA	
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ATTORNEY DOCKET NUMBER:	30896/30897/30925
NAME OF SUBMITTER:	SUSAN T. HUBL, REG. 47668
SIGNATURE:	/Susan T. Hubl/
DATE SIGNED:	03/18/2016
Total Attachments: 23	
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BUSINESS SUBSIDIARY PATENT ASSIGNMENT

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Thermo Fisher Scientific Biosciences Inc., a Delaware corporation ("Assignor"), hereby assigns to Thermo Fisher Scientific Inc., a Delaware corporation having a place of business at 81 Wyman Street, Waltham, MA 02451 ("Transferee"), all of Assignor's right, title and interest in, to and under the patents, patent registrations and patent applications identified on Schedule 1 hereto (the "Assigned Patents"), including all rights in applications anywhere in the world claiming priority thereto all income and payments now or hereafter due or payable with respect thereto, all causes of action in law or equity relating thereto and all rights to sue, counterclaim and recover for past, present and future infringement and misappropriation of the rights assigned, the same to be held and enjoyed by the Transferee, its successors and assigns.

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Executed as of the 21st day of March, 2014.

THERMO FISHER SCIENTIFIC
BIOSCIENCES INC.

By: David Hissong

Print Name: DAVID HISSONG

Print Title: ASSISTANT SECRETARY

[Signature Page to Business Subsidiary Patent Assignment]

Schedule 1

Assigned Patents

Docket Number	Title	Status	Jurisdiction	Application Number	Application Date	Patent Number	Grant Date	Expiration Date
10996DE1/EPC	Functional and Hyperfunctional siRNA	Granted	Germany	3786798.3	11/14/2003	1560931	7/27/2011	11/14/2023
10996CH1/EPC	Functional and Hyperfunctional siRNA	Granted	Switzerland	10003382-8	11/14/2003	2213738	10/10/2012	11/14/2023
10996DE2/EPC	Functional and Hyperfunctional siRNA	Granted	Germany	10003382-8	11/14/2003	60342343-4	10/10/2012	11/14/2023
10996EP1/EPC	Functional and Hyperfunctional siRNA	Granted	European Patent Office (EPO)	10003382.8	11/14/2003	2213738	10/10/2012	11/14/2023
10996EP1/PCT	Functional and Hyperfunctional siRNA	Inactive	European Patent Office (EPO)	3786798.3	11/14/2003	1560931	7/27/2011	11/14/2023
10996EP2/EPC	Functional and Hyperfunctional siRNA - p53	Granted and nationalized in AT BE BG CH CZ DE DK ES FR GB HU IE IT LU NL PT PO	European Patent Office (EPO)	10012132-6	11/14/2003	2284266	11/6/2013	11/14/2023

Docket Number	Title	Status	Jurisdiction	Application Number	Application Date	Patent Number	Grant Date	Expiration Date
		RO SE SI TR						
10996EP3/EPC	Functional and Hyperfunctional siRNA	Inactive	European Patent Office (EPO)	10013098.8	11/14/2003			11/14/2023
10996EP4/EPC	Functional and Hyperfunctional siRNA	Inactive	European Patent Office (EPO)	10013099.6	11/14/2003			11/14/2023
10996EP5/EPC	Functional and Hyperfunctional siRNA	Inactive	European Patent Office (EPO)	10013081.4	11/14/2003			11/14/2023
10996EP6/EPC	Functional and Hyperfunctional siRNA	Inactive	European Patent Office (EPO)	10013100.2	11/14/2003			11/14/2023
10996FR1/EPC	Functional and Hyperfunctional siRNA	Granted	France	10003382.8	11/14/2003	2213738	10/10/2012	11/14/2023
10996GB1/EPC	Functional and Hyperfunctional siRNA	Granted	United Kingdom	3786798.3	11/14/2003	1560931	7/27/2011	11/14/2023
10996GB2/EPC	Functional and Hyperfunctional siRNA	Granted	United Kingdom	10003382.8	11/14/2003	2213738	10/10/2012	11/14/2023
10996JP1/NAT	Functional and Hyperfunctional siRNA	Pending	Japan	2010-035279	11/14/2003			11/14/2023

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Docket Number	Title	Status	Jurisdiction	Application Number	Application Date	Patent Number	Grant Date	Expiration Date
10996JP1/PCT	Functional and Hyperfunctional siRNA	Inactive	Japan	2004-570430	11/14/2003			11/14/2023
10996P1/NAT	Functional and Hyperfunctional siRNA	Inactive	United States of America	60/426137	11/14/2002			11/14/2003
10996P2/NAT	Functional and Hyperfunctional siRNA	Inactive	United States of America	60/502050	9/10/2003			9/10/2004
10996US1/NAT	Functional and Hyperfunctional siRNA	Granted	United States of America	10/714333	11/14/2003	8090542	1/3/2012	11/14/2023
10996US10/NAT	siRNA Targeting MCL1	Granted	United States of America	11/903001	9/20/2007	7514550	4/7/2009	11/14/2023
10996US11/NAT	siRNA Targeting bc12	Granted	United States of America	11/083784	3/18/2005	7820809	10/26/2010	11/14/2023
10996US12/NAT	Functional and Hyperfunctional siRNA (Differential Stability)	Inactive	United States of America	11/093832	3/29/2005			11/14/2023
10996US13/NAT	Functional and hyperfunctional siRNA	Granted	United States of America	11/095383	3/30/2005	7834170	11/16/2010	11/14/2023
10996US14/NAT	Functional and Hyperfunctional siRNA	Granted	United States of America	11/101244	4/7/2005	7691997	4/6/2010	11/14/2023

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Docket Number	Title	Status	Jurisdiction	Application Number	Application Date	Patent Number	Grant Date	Expiration Date
10996US15/NAT	Functional and Hyperfunctional siRNA Directed Against Bcl-2	Inactive	United States of America	11/974610	10/15/2007			11/14/2023
10996US16/NAT	Functional and Hyperfunctional siRNA Directed Against Bcl-2	Inactive	United States of America	11/974865	10/16/2007			11/14/2023
10996US17/NAT	siRNA Targeting bcl2	Granted	United States of America	11/974885	10/16/2007	7511132	3/31/2009	11/14/2023
10996US18/NAT	Functional and Hyperfunctional siRNA Directed Against Bcl-2	Inactive	United States of America	11/974878	10/16/2007			11/14/2023
10996US19/NAT	Functional and Hyperfunctional siRNA Directed Against Bcl-2	Inactive	United States of America	11/974880	10/16/2007			11/14/2023
10996US2/NAT	siRNA Targeting Survivin	Granted	United States of America	11/633342	12/4/2006	7608707	10/27/2009	11/14/2023
10996US20/NAT	siRNA Targeting bcl2	Granted	United States of America	11/975152	10/17/2007	7795420	9/14/2010	11/14/2023
10996US21/NAT	Functional and Hyperfunctional siRNA Directed Against Bcl-2	Inactive	United States of America	11/975331	10/18/2007			11/14/2023

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Docket Number	Title	Status	Jurisdiction	Application Number	Application Date	Patent Number	Grant Date	Expiration Date
10996US22/NAT	Functional and Hyperfunctional siRNA Directed Against Bcl-2	Inactive	United States of America	11/975661	12/14/2007			11/14/2023
10996US23/NAT	siRNA Targeting KRAS	Granted	United States of America	12/330981	12/9/2008	7576197	8/18/2009	11/14/2023
10996US24/NAT	siRNA Targeting Tumor Necrosis Factor Superfamily Member 1A	Inactive	United States of America	12/322980	2/10/2009			11/14/2023
10996US25/NAT	siRNA Targeting MCL1	Granted	United States of America	12/378164	2/11/2009	7592444	9/22/2009	11/14/2023
10996US26/NAT	siRNA Targeting KRAS	Granted	United States of America	12/459670	7/6/2009	7745611	6/29/2010	11/14/2023
10996US27/NAT	siRNA Targeting Myeloid Cell Leukemia Sequence 1	Inactive	United States of America	12/463000	8/12/2009			11/14/2023
10996US28/NAT	siRNA Targeting Survivin	Granted	United States of America	12/584705	9/10/2009	7807819	10/5/2010	11/14/2023
10996US29/NAT	siRNA Targeting Spleen Tyrosine Kinase	Granted	United States of America	12/592335	11/23/2009	7893247	2/22/2011	11/14/2023

Docket Number	Title	Status	Jurisdiction	Application Number	Application Date	Patent Number	Grant Date	Expiration Date
10996US3/NAT	siRNA Targeting BCL2L 1	Granted	United States of America	11/635329	12/7/2006	7674896	3/9/2010	11/14/2023
10996US30/NAT	siRNA Targeting BCL2L 1	Inactive	United States of America	12/657263	1/15/2010			11/14/2023
10996US31/NAT	siRNA Targeting KRAS	Granted	United States of America	12/799844	5/3/2010	8008474	8/30/2011	11/14/2023
10996US32/NAT	siRNA Targeting Survivin	Inactive	United States of America	12/806513	8/13/2010			11/14/2023
10996US33/NAT	siRNA Targeting Spleen Tyrosine Kinase	Granted	United States of America	12/928190	12/6/2010	8093370	1/10/2012	11/14/2023
10996US34/NAT	siRNA Targeting RA-regulated Nuclear Matrix-associated	Inactive	United States of America	11/788857	4/20/2007			11/14/2023
10996US35/NAT	Functional and Hyperfunctional siRNA	Inactive	United States of America	11/313452	12/21/2005			11/14/2023
10996US36/NAT	siRNA Targeting RAN	Granted	United States of America	11/594530	11/8/2006	7608706	10/27/2009	11/14/2023
10996US37/NAT	siRNA Targeting Ras-related Nuclear Protein RAN	Granted	United States of America	12/584850	9/11/2009	7897754	3/1/2011	11/14/2023

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Docket Number	Title	Status	Jurisdiction	Application Number	Application Date	Patent Number	Grant Date	Expiration Date
10996US39/NAT	siRNA Targeting Catenin, Beta-1 (CTNNB1)	Granted	United States of America	11/980210	10/30/2007	8198427	6/12/2012	11/14/2023
10996US4/NAT	siRNA Targeting KRAS	Granted	United States of America	11/633306	12/4/2006	7507811	3/24/2009	11/14/2023
10996US40/NAT	siRNA Targeting Catenin, Beta-1 (CTNNB1)	Granted	United States of America	13/466631	5/8/2012	8399654	3/19/2013	11/14/2023
10996US41/NAT	siRNA Targeting Catenin, Beta-1 (CTNNB1)	Pending	United States of America	13/764825	2/13/2013			11/14/2023
10996US5/NAT	siRNA Targeting MCL1	Inactive	United States of America	11/633404	12/4/2006			11/14/2023
10996US6/NAT	siRNA Targeting CAII	Granted	United States of America	11/635618	12/7/2006	7579457	8/25/2009	11/14/2023
10996US7/NAT	siRNA Targeting Tumor Necrosis Factor Superfamily Member 1A	Inactive	United States of America	11/635478	12/7/2006			11/14/2023
10996US8/NAT	siRNA Targeting Complement Factor B	Granted	United States of America	11/635330	12/7/2006	7696344	4/13/2010	11/14/2023
10996US9/NAT	siRNA Targeting Spleen Tyrosine Kinase	Granted	United States of America	11/633383	12/4/2006	7645869	1/12/2010	11/14/2023

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Docket Number	Title	Status	Jurisdiction	Application Number	Application Date	Patent Number	Grant Date	Expiration Date
10996WO1/PCT	Functional and Hyperfunctional siRNA	Inactive	World Intellectual Property Org. (WIPO)	PCT/US2003/036787	11/14/2003			11/14/2006
11060US1/NAT	Methods and Compositions for Selecting siRNA of Improved Functionality	Pending	United States of America	10/940892	9/14/2004			9/14/2024
11060US10/NAT	siRNA Targeting p53	Granted	United States of America	12/586271	9/18/2009	7781575	8/24/2010	9/18/2029
11060US100/NAT	siRNA Targeting APP	Pending	United States of America	13/551794	7/18/2012			7/18/2032
11060US101/NAT	siRNA Targeting Beta Secretase (bace)	Pending	United States of America	13/613910	9/13/2012			9/13/2032
11060US102/NAT	siRNA Targeting Fructose-1,6-bisphosphatase 1 (FBP1)	Pending	United States of America	13/632519	10/1/2012			10/1/2032
11060US103/NAT	siRNA Targeting TIE-2	Pending	United States of America	13/647869	10/9/2012			10/9/2032
11060US104/NAT	siRNA Targeting MYD88	Pending	United States of America	13/847544	3/20/2013			3/20/2033

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Docket Number	Title	Status	Jurisdiction	Application Number	Application Date	Patent Number	Grant Date	Expiration Date
11060US105/NAT	siRNA Targeting APOB	Inactive as of 3/9/2014	United States of America	13/867175	4/22/2013			4/22/2033
11060US106/NAT	siRNA Targeting p27	Inactive as of 3/9/2014	United States of America	13/867168	4/22/2013			4/22/2033
11060US11/NAT	siRNA Targeting Connexin 43	Granted	United States of America	11/731894	3/30/2007	7521191	4/21/2009	3/30/2027
11060US12/NAT	siRNA Targeting Gremlin	Granted	United States of America	11/731843	3/30/2007	7569684	8/4/2009	3/30/2027
11060US13/NAT	Methods and Compositions for Selecting siRNA of Improved Functionality	Granted	United States of America	12/802647	6/11/2010	8000902	8/16/2011	6/11/2030
11060US14/NAT	siRNA Targeting IGF- 1R	Granted	United States of America	11/732457	4/3/2007	7638621	12/29/2009	4/3/2027
11060US15/NAT	siRNA Targeting CDC20	Granted	United States of America	11/784755	4/9/2007	7550572	6/23/2009	4/9/2027
11060US16/NAT	siRNA Targeting CDK11	Granted	United States of America	11/807486	5/29/2007	7745610	6/29/2010	5/29/2027

Docket Number	Title	Status	Jurisdiction	Application Number	Application Date	Patent Number	Grant Date	Expiration Date
11060US17/NAT	siRNA Targeting COPB2	Granted	United States of America	11/807836	5/30/2007	7619081	11/17/2009	5/30/2027
11060US18/NAT	siRNA Targeting TIE- 2	Granted	United States of America	11/593100	11/3/2006	7615541	11/10/2009	11/3/2026
11060US19/NAT	siRNA Targeting EPHA3	Granted	United States of America	11/810383	6/5/2007	7595388	9/29/2009	6/5/2027
11060US2/NAT	Improved Algorithm	Inactive	United States of America	11/729924	3/29/2007			3/29/2027
11060US20/NAT	siRNA Targeting Gankyrin	Granted	United States of America	11/811423	6/8/2007	7645870	1/12/2010	6/8/2027
11060US21/NAT	siRNA Targeting RRM2	Granted	United States of America	11/818555	6/13/2007	7592442	9/22/2009	6/13/2027
11060US22/NAT	Improved Algorithm	Inactive	United States of America	11/594666	11/8/2006			11/8/2026
11060US23/NAT	siRNA Targeting Aurora B Kinase	Granted	United States of America	11/818938	6/15/2007	7678896	3/16/2010	6/15/2027
11060US24/NAT	siRNA Targeting PLK- 1	Granted	United States of America	11/818936	6/15/2007	7598370	10/6/2009	6/15/2027

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Docket Number	Title	Status	Jurisdiction	Application Number	Application Date	Patent Number	Grant Date	Expiration Date
11060US25/NAT	siRNA Targeting CBL- B	Granted	United States of America	11/880628	7/23/2007	7595389	9/29/2009	7/23/2027
11060US26/NAT	siRNA Targeting PKN-3	Granted	United States of America	11/880794	7/24/2007	7635770	12/22/2009	7/24/2027
11060US27/NAT	siRNA Targeting HRH1	Granted	United States of America	11/595698	11/9/2006	7598369	10/6/2009	11/9/2026
11060US28/NAT	siRNA Targeting DDIT4	Granted	United States of America	11/880775	7/24/2007	7655788	2/2/2010	7/24/2027
11060US29/NAT	siRNA Targeting SNCA-1	Granted	United States of America	11/880965	7/25/2007	7579458	8/25/2009	7/25/2027
11060US3/NAT	siRNA Targeting TAF1	Granted	United States of America	12/157137	6/6/2008	7642349	1/5/2010	6/6/2028
11060US30/NAT	siRNA Targeting Aquaporin 4	Granted	United States of America	11/598179	11/9/2006	7541453	6/2/2009	11/9/2026
11060US31/NAT	siRNA Targeting TNFalpha	Granted	United States of America	12/209698	9/12/2008	7977471	7/12/2011	9/12/2028
11060US32/NAT	siRNA Targeting RAN	Granted	United States of America	12/321749	1/23/2009	7666853	2/23/2010	1/23/2029

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Docket Number	Title	Status	Jurisdiction	Application Number	Application Date	Patent Number	Grant Date	Expiration Date
11060US33/NAT	siRNA Targeting HIF1	Granted	United States of America	12/322387	2/2/2009	7589191	9/15/2009	2/2/2029
11060US34/NAT	siRNA Targeting cAMP-specific phosphodiesterase 4D	Granted	United States of America	11/595112	11/9/2006	7605250	10/20/2009	11/9/2026
11060US35/NAT	siRNA Targeting KDR	Granted	United States of America	11/978107	10/26/2007	7605252	10/20/2009	10/26/2027
11060US36/NAT	siRNA Targeting ICAM1	Granted	United States of America	11/978097	10/26/2007	7638622	12/29/2009	10/26/2027
11060US37/NAT	siRNA Targeting C3	Granted	United States of America	11/978070	10/26/2007	7582746	9/1/2009	10/26/2027
11060US38/NAT	siRNA Targeting TRPV1	Granted	United States of America	11/978106	10/26/2007	7655789	2/2/2010	10/26/2027
11060US39/NAT	siRNA Targeting Beta Secretase (bace)	Inactive	United States of America	11/978457	10/29/2007			10/29/2027
11060US4/NAT	siRNA Targeting Nup62	Granted	United States of America	12/157289	6/9/2008	7691998	4/6/2010	6/9/2028
11060US40/NAT	siRNA Targeting SOD1	Granted	United States of America	11/978518	10/29/2007	7632938	12/15/2009	10/29/2027

Docket Number	Title	Status	Jurisdiction	Application Number	Application Date	Patent Number	Grant Date	Expiration Date
11060US41/NAT	siRNA Targeting APP	Granted	United States of America	11/978476	10/29/2007	7635771	12/22/2009	10/29/2027
11060US42/NAT	siRNA Targeting APOB	Granted	United States of America	11/978455	10/29/2007	7795421	9/14/2010	10/29/2027
11060US43/NAT	siRNA Targeting Glucagon Receptor (GCGR)	Inactive	United States of America	11/978475	10/29/2007			10/29/2027
11060US44/NAT	siRNA Targeting DGAT2	Granted	United States of America	11/978398	10/29/2007	7709629	5/4/2010	12/26/2027
11060US45/NAT	siRNA Targeting Fructose-1,6-bisphosphatase 1 (FBP1)	Inactive	United States of America	11/978487	10/29/2007			10/29/2027
11060US46/NAT	siRNA Targeting IRAK4	Granted	United States of America	11/980300	10/30/2007	7592443	9/22/2009	10/30/2027
11060US47/NAT	siRNA Targeting MYD88	Granted	United States of America	11/980102	10/30/2007	7662950	2/16/2010	10/30/2027
11060US48/NAT	siRNA Targeting p27	Granted	United States of America	11/978900	10/30/2007	7612196	11/3/2009	10/30/2027
11060US49/NAT	siRNA Targeting MET	Granted	United States of America	11/980263	10/30/2007	7632939	12/15/2009	10/30/2027

Docket Number	Title	Status	Jurisdiction	Application Number	Application Date	Patent Number	Grant Date	Expiration Date
11060US5/NAT	siRNA Targeting TBL3	Granted	United States of America	12/287757	10/14/2008	7576196	8/18/2009	10/14/2028
11060US50/NAT	siRNA Targeting INCENP	Granted	United States of America	12/157151	6/6/2008	7582747	9/1/2009	6/6/2028
11060US51/NAT	SiRNA Targeting Inner Centromere Protein Antigens (INCENP)	Inactive	United States of America	12/454055	5/12/2009			5/12/2029
11060US52/NAT	siRNA Targeting Gremlin	Granted	United States of America	12/455098	5/28/2009	7741470	6/22/2010	5/28/2029
11060US53/NAT	siRNA Targeting Transducin (beta) like 3 (TBL3)	Inactive	United States of America	12/459489	7/1/2009			7/1/2029
11060US54/NAT	siRNA Targeting Polo-like Kinase-1 (PLK-1)	Inactive	United States of America	12/460876	7/24/2009			7/24/2029
11060US55/NAT	siRNA Targeting IRAK4	Granted	United States of America	12/462029	7/28/2009	7745612	6/29/2010	7/28/2029
11060US56/NAT	siRNA Targeting HIF1	Granted	United States of America	12/462420	8/4/2009	7737267	6/15/2010	8/4/2029
11060US57/NAT	siRNA Targeting Ribonucleotide Reductase	Inactive	United States of America	12/462776	8/7/2009			8/7/2029

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Docket Number	Title	Status	Jurisdiction	Application Number	Application Date	Patent Number	Grant Date	Expiration Date
11060US58/NAT	siRNA Targeting HRH1	Granted	United States of America	12/462820	8/10/2009	8022198	9/20/2011	8/10/2029
11060US59/NAT	siRNA Targeting Kinase Insert Domain Receptor (KDR)	Granted	United States of America	12/584352	9/3/2009	8222395	7/17/2012	9/3/2029
11060US6/NAT	siRNA Targeting Deubiquitination Enzymes	Inactive	United States of America	11/975902	10/22/2007			10/22/2027
11060US60/NAT	siRNA Targeting p27	Granted	United States of America	12/584899	9/14/2009	8013145	9/6/2011	9/14/2029
11060US61/NAT	siRNA Targeting TIE-2	Granted	United States of America	12/586167	9/17/2009	7855186	12/21/2010	9/17/2029
11060US62/NAT	siRNA Targeting Superoxide Dismutase 1 (SOD1)	Granted	United States of America	12/589879	10/29/2009	8039610	10/18/2011	10/29/2029
11060US63/NAT	siRNA Targeting MET	Granted	United States of America	12/590097	11/2/2009	7816512	10/19/2010	11/2/2029
11060US64/NAT	siRNA Targeting APP	Granted	United States of America	12/590252	11/4/2009	7829696	11/9/2010	11/4/2029
11060US65/NAT	siRNA Targeting TAF1	Granted	United States of America	12/590707	11/12/2009	7803933	9/28/2010	11/12/2029

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Docket Number	Title	Status	Jurisdiction	Application Number	Application Date	Patent Number	Grant Date	Expiration Date
11060US66/NAT	siRNA Targeting Fructose-1,6-bisphosphatase 1 (FBP1)	Granted	United States of America	12/592872	12/3/2009	8304528	11/6/2012	9/29/2030
11060US67/NAT	siRNA Targeting MYD88)	Granted	United States of America	12/653120	12/8/2009	8022199	9/20/2011	12/8/2029
11060US68/NAT	siRNA Targeting Beta Secretase (bace)	Granted	United States of America	12/653402	12/11/2009	7807820	10/5/2010	12/11/2029
11060US69/NAT	siRNA Targeting CTGF	Granted	United States of America	12/655107	12/23/2009	7833989	11/16/2010	12/23/2029
11060US7/NAT	siRNA Targeting CDK4	Granted	United States of America	12/384768	4/8/2009	8030474	10/4/2011	4/8/2029
11060US70/NAT	siRNA Targeting Serine/Threonine Kinase 12 (STK12 or Aurora B Kinase)	Granted	United States of America	12/657448	1/21/2010	8067576	11/29/2011	1/21/2030
11060US71/NAT	siRNA targeting Diacylglycerol O-Acyltransferase Homolog 2 (DGAT2)	Granted	United States of America	12/660582	3/1/2010	8247169	8/21/2012	3/1/2030
11060US72/NAT	siRNA Targeting Gremlin	Granted	United States of America	12/798603	4/7/2010	8030476	10/4/2011	4/7/2030

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Docket Number	Title	Status	Jurisdiction	Application Number	Application Date	Patent Number	Grant Date	Expiration Date
11060US73/NAT	siRNA Targeting HIF1	Granted	United States of America	12/798802	4/12/2010	7935813	5/3/2011	4/12/2030
11060US74/NAT	siRNA Targeting Glucagon Receptor (GCCR)	Granted	United States of America	12/798906	4/13/2010	8236942	8/7/2012	4/13/2030
11060US75/NAT	siRNA Targeting Interleukin-1 Receptor-associated Kinase 4 (IRAK4)	Granted	United States of America	12/799758	4/30/2010	8217162	7/10/2012	4/30/2030
11060US76/NAT	siRNA Targeting CDK11	Inactive	United States of America	12/799975	5/5/2010			5/5/2030
11060US77/NAT	siRNA Targeting APOB	Granted	United States of America	12/804014	7/12/2010	8071754	12/6/2011	7/12/2030
11060US78/NAT	siRNA Targeting TAF1	Granted	United States of America	12/806320	8/10/2010	7985854	7/26/2011	8/10/2030
11060US79/NAT	siRNA Targeting Beta Secretase (bace)	Granted	United States of America	12/806570	8/17/2010	7999097	8/16/2011	11/14/2022
11060US8/NAT	siRNA Targeting MYC	Granted	United States of America	12/456424	6/16/2009	7951935	5/31/2011	6/16/2029
11060US80/NAT	siRNA Targeting Proto-oncogene MET	Granted	United States of America	12/807526	9/8/2010	8222396	7/17/2012	9/29/2030

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Docket Number	Title	Status	Jurisdiction	Application Number	Application Date	Patent Number	Grant Date	Expiration Date
11060US81/NAT	siRNA Targeting APP	Granted	United States of America	12/924078	9/20/2010	8268985	9/18/2012	9/20/2030
11060US82/NAT	siRNA Targeting Connective Tissue Growth Factor (CTGF)	Granted	United States of America	12/924653	10/1/2010	8138329	3/20/2012	10/1/2030
11060US83/NAT	siRNA Targeting TIE- 2	Granted	United States of America	12/927144	11/8/2010	8314229	11/20/2012	12/31/2030
11060US84/NAT	siRNA Targeting TNFalpha	Pending	United States of America	12/928950	12/23/2010			12/23/2030
11060US85/NAT	siRNA Targeting Beta Secretase (bace)	Granted	United States of America	13/135336	7/1/2011	8293887	10/23/2012	7/1/2031
11060US86/NAT	siRNA Targeting p27	Granted	United States of America	13/135443	7/5/2011	8232385	7/31/2012	7/5/2031
11060US87/NAT	siRNA Targeting HRH1	Granted	United States of America	13/136780	8/10/2011	8633306	1/21/2014	
11060US88/NAT	siRNA Targeting MYD88)	Granted	United States of America	13/136812	8/11/2011	8426579	4/23/2013	8/11/2031
11060US89/NAT	siRNA Targeting CDK4	Inactive as of 3/5/2014	United States of America	13/199001	8/17/2011			8/17/2031

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Docket Number	Title	Status	Jurisdiction	Application Number	Application Date	Patent Number	Grant Date	Expiration Date
11060US9/NAT	siRNA Targeting Connexin 43	Inactive	United States of America	12/454271	5/14/2009			5/14/2029
11060US90/NAT	siRNA Targeting Gremlin	Inactive	United States of America	13/199240	8/23/2011			8/23/2031
11060US91/NAT	siRNA Targeting APOB	Granted	United States of America	13/317752	10/27/2011	8232386	7/30/2012	10/27/2031
11060US92/NAT	siRNA Targeting Connective Tissue Growth Factor (CTGF)	Granted	United States of America	13/385320	2/14/2012	8461326	6/11/2013	2/14/2032
11060US93/NAT	siRNA Targeting Interleukin-1 Receptor-associated Kinase 4 (IRAK4)	Pending	United States of America	13/489725	6/6/2012			6/6/2032
11060US94/NAT	siRNA Targeting Proto-oncogene MET	Pending	United States of America	13/494360	6/12/2012			6/12/2032
11060US95/NAT	siRNA Targeting Kinase Insert Domain Receptor (KDR)	Granted	United States of America	13/524015	6/15/2012	8575329	11/5/2013	6/15/2032
11060US96/NAT	siRNA Targeting p27	Granted	United States of America	13/531657	6/25/2012	8445667	5/21/2013	6/25/2032

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Docket Number	Title	Status	Jurisdiction	Application Number	Application Date	Patent Number	Grant Date	Expiration Date
11060US97/NAT	siRNA Targeting APOB	Granted	United States of America	13/536005	6/28/2012	8445668	5/21/2013	6/28/2032
11060US98/NAT	siRNA targeting Diacylglycerol O-Acyltransferase Homolog 2 (DGAT2)	Pending	United States of America	13/539630	7/2/2012			7/2/2032
11060US99/NAT	siRNA Targeting Glucagon Receptor (GCGR)	Pending	United States of America	13/542332	7/5/2012			7/5/2032
11060WO1/PCT	Methods and Compositions for Selecting siRNA of Improved Functionality	Inactive	World Intellectual Property Org. (WIPO)	PCT/US2004/014885	5/12/2004			5/12/2007
11060US107/NAT	siRNA Targeting TTR	Pending	United States of America	14/097551	12/5/2013			
11060US108/NAT	siRNA Targeting TIE-2	Pending	United States of America	14/099339	12/6/2013			

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Assignor is a co-owner of the following:

Docket Number	Title	Status	Jurisdiction	Application Number	Application Date	Patent Number	Grant Date	Expiration Date
10271US1/NAT	siRNA Targeting VEGF-A and method for treatment in vivo	Granted	United States of America	13/190797	7/26/2011	8546349	10/1/2013	
10271US2/NAT	siRNA Targeting VEGF-A and method for treatment in vivo	Pending	United States of America	14/010749	8/27/2013			
18598WO1/NCT	Cell lines for Virus Production and Methods of Use	Pending	World Intellectual Property Org. (WIPO)	PCT/US2014/014813	2/5/2014			

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