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Merrimack Pharmaceuticals Inc

COMPANY AND PIPELINE OVERVIEW REPORT

A comprehensive coverage of the company and a summary of the drug pipeline portfolio.

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ABOUT COMPANY AND PIPELINE OVERVIEW REPORT

Thomson Reuters provides the knowledge, tools, and expertise to help support drug discovery and development activities, IP portfolio optimization, identification of licensing and partnering opportunities, delivery of successful regulatory submissions, and the ability to keep current with the rapidly-changing pharmaceutical and chemical markets, supporting informed, early decisions.

This report was created by Thomson Reuters, using information from *Thomson Reuters Cortellis™ for Competitive Intelligence*; a comprehensive, proven intelligence solution that leverages the most accurate, complete, and widely respected drug pipeline information.From drug discovery and development activities to patent reports, the latest deals, and partnering opportunities, *Cortellis* can provide the confidence to make the most informed business decisions, faster. *Cortellis for Competitive Intelligence* provides accurateand validated information on pharmaceutical and biotechnology companies globally, their drug pipelines, deals, patents, and clinical trials, plus breaking industry news and conference coverage. All contained in one simple, highly intuitive research platform.

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GLOSSARY

Number of Drugs in Active Development

Number of drugs associated with the company or subsidiary that are currently in active development, i.e. the development status for the drug(s) is one of the following: Discovery, Clinical, Phase I, Phase II, Phase III, Pre-registration, Registered, Launched, or Suspended.

Number of Inactive Drugs

Number of drugs associated with the company or subsidiary that are currently classified as inactive, i.e. where the development status for the drug(s) is one of the following: No Development Reported, Discontinued, or Withdrawn.

Number of Patents as Owner

Number of patents associated with the company where the company is listed as owner; i.e. the relationship type (or way the patent refers to the company) is: Patent Assignee/Owner, Patent owner (not assignee), Licensee for development and marketing, Licensee – marketing only (Distributor), Patent assignee of family member, Inferred assignee.

Number of Patents as Third Party

Number of patents associated with the company where the company is listed as third party; i.e. the relationship type (or way the patent refers to the company) is: Patent assignee (not owner), Ex-Licensee for development and marketing, Ex-Licensee marketing only (Distributor), Customer of technology, Ex-Customer of technology, Patent opponent or infringer, Affiliate organization of inventor, Owner of underlying technology.

Patents summary table

This table represents a summary of the core patent coverage for this company covering Therapeutic EP, US and WO patents since 1990 only.

Number of Deals

A count of deals where the company or one of its subsidiaries is the primary company.

Key Indications

Displays top ten key indications for the company and its subsidiaries based on frequency (indications occurring with high and identical frequency are always included, and this may result in more than ten Key Indications being listed). Includes both indications associated with patents where the company is patent owner and indications associated with drugs in active development. A drug is classified as 'active' if it features on a row (or rows) in the current development status table where the status is one of the following: Discovery, Clinical, Phase I, Phase II, Phase III, Pre-registration, Registered, Launched, or Suspended.

Key Target-based Actions

Displays top ten key target-based actions for the company and its subsidiaries based on frequency (actions occurring with high and identical frequency are always included, and this may result in more than ten Key Target-based Actions being listed). Includes both target-based actions associated with patents where the company patent owner and target-based actions associated with drugs in active development. A drug is classified as 'active' if it features on a row (or rows) in the current development status table where the status is one of the following: Discovery, Clinical, Phase I, Phase II, Phase III, Pre-registration, Registered, Launched, or Suspended. A target-based action is one that is associated with a target.

Key Technologies

Displays top ten key technologies for the company and its subsidiaries based on frequency (technologies occurring with high and identical frequency are always included, and this may result in more than ten Key Technologies being listed). Includes both key technologies associated with patents where the company relationship is patent owner and key technologies associated with drugs in active development. A drug is classified as 'active' if it features on a row (or rows) in the current development status table where the status is one of the following: Discovery, Clinical, Phase I, Phase II, Phase III, Pre-registration, Registered, Launched, or Suspended.

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PLEASE NOTE: the financials section where present in the report includes: Share Information, Stock Performance chart (including the consensus recommendation), and Major Shareholders. Financial Performance presents graphical and tabular data on Worldwide Sales, Operating Income and Net Income over time, together with a Quarterly earnings update. Balance Sheet lists Assets, Liabilities and Stockholders Equity, and Forecasts includes: EPS Forecast and Other Forecasts. The data reported in all sections (except share information and major stock holders) are correct as of the publication date of the report (and not the download date). For share information and major stock holders the data is correct for the date shown with these sections

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Merrimack Pharmaceuticals Inc

COMPANY OVERVIEW

Company Name	Merrimack Pharmaceuticals Inc
Parent Company Name	Merrimack Pharmaceuticals Inc
Website	http://www.merrimackpharma.com
Country	US
Number of Drugs in Active Development	9
Number of Inactive Drugs	8
Number of Patents as Owner	31
Number of Patents as Third Party	5
Number of Deals	16
Key Indications	Cancer,Breast tumor,Solid tumor,Stomach tumor,Advanced solid tumor,Ovary tumor,Pancreas tumor,Non-small-cell lung cancer,Colorectal tumor,Endometrioid carcinoma,Fallopian tube cancer,Glioma,Metastatic pancreas cancer,Peritoneal tumor
Key Target-based Actions	Erbb3 tyrosine kinase receptor inhibitor,Erbb2 tyrosine kinase receptor inhibitor,Epidermal growth factor antagonist,Alpha-fetoprotein stimulator,Insulin-like growth factor 1 antagonist,Erbb2 tyrosine kinase receptor modulator,DNA polymerase inhibitor,Topoisomerase I inhibitor,Topoisomerase II inhibitor,Albumin agonist,Albumin modulator,CD49d antagonist,EGFR family tyrosine kinase receptor inhibitor,Protein tyrosine kinase inhibitor,Unspecified growth factor receptor modulator,VEGF receptor antagonist
Key Technologies	Biological therapeutic,Monoclonal antibody human,Parenteral formulation unspecified,Small molecule therapeutic,Monoclonal antibody,Liposome formulation,Intravenous formulation,Multivalent monoclonal antibody,Drug combination,Nanoparticle formulation

COMPANY PROFILE

SUMMARY

Merrimack Pharmaceuticals Inc (formerly Atlantic BioPharmaceuticals Inc), founded in 2000 and headquartered in Cambridge, MA, is a privately-held biotechnology company focused on the study of protein networks to discover and develop pharmaceuticals in the area of immunology and oncology. In February 2002, Atlantic acquired Merrimack; the merged company was to operate as Merrimack Pharmaceuticals.

The company's network biology platform, integrating Target Orientated Screening (TOS) and Profile Orientated Screening (POS) technologies developed by researchers at the Massachusetts Institute of Technology and Harvard, enables the high-throughput mapping, profiling and modeling of complex proteins for the discovery, validation and development of targets and novel therapeutics.

Merrimack has ongoing research programs in the areas of immunomodulation, growth factor signalling and apoptosis.

ACQUISITIONS AND SPIN-OFFS

In December 2009, Merrimack acquired HERMES Biosciences.

In February 2002, the merger of Merrimack and Atlantic was completed. Atlantic acquired Merrimack in an all-stock transaction. Robert Mulroy, the former CEO of Atlantic, became President and CEO of the merged company.

EARLY R&D

In June 2008, the company was advancing a set of antibody therapies for solid tumors through preclinical studies. At that time, the company planned to file an IND for a third compound in early 2009.

LICENSING AGREEMENTS

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In September 2008, Selexis signed a commercial license agreement with Merrimack to apply a high-performance cell line, generated using the Selexis technology platform, for the cGMP production of an undisclosed antibody. No financial terms were disclosed.

In April 2008, Merrimack recruited Codon Devices to perform protein engineering and optimization services. Under the terms of the allaince, Codon agreed to use its BioLOGIC platform to design proteins according to Merrimack's specifications. Merrimack agreed to pay its partner clinical milestone payments and royalties on net sales of protein developed with the technology.

By November 2004, GTC Biotherapeutics Inc was to deliver additional material for clinical evaluation for the program with Merrimack, which had entered trials in 2003,.

In June 2004,Merrimack initiated an exploratory research collaboration with Novartis Institutes for BioMedical Research Inc.

By year end 2002, Merrimack had entered into a research collaboration with Neurosearch whereby Neurosearch was to use Merrimack's proprietary technology for the discovery and validation of new compounds targeting neurological disease.

FINANCIAL

In November 2012, Merrimack entered into a loan and security agreement with Hercules Technology Growth Capital for an aggregate principal amount of $40.0 million. The agreement provided for an initial term loan advance of $25.0 million on November 8, 2012 and an additional term loan advance of up to $15.0 million would be available at any time through December 15, 2012 upon Merrimack's request at an an annual rate equal to the greater of 10.55% and 10.55% plus the prime rate of interest minus 5.25%, but may not exceed 12.55%.

In June 2012, Merrimack announced that it was to join the Russell 3000 Index on June 25, 2012. Initial listing of the company on NASDAQ occured in March 2012.

In March 2012, the company priced its IPO of 14.3 million shares at $7.00 per share and would grants underwriters a 30-day option to purchase an additional 2,145,000 shares to cover overallotments. In April 2012, the company raised net proceeds of $100.5 million in an IPO, from the sale of 15,042,459 shares including 742,459 shares folllowing the exercise by the underwriters; in August 2012, the company reported that the net proceeds from the offering was $98.1 million.

In April 2011, Merrimack raised $77 million in a series G private financing.

In January 2010, Merrimack received a $1.5 million tax incentive from the Massachusetts Life Sciences Center.

In June 2008, the company raised $60 million in a series F private equity financing. The company would use the funds to advance its pipeline.

In April 2006, Merrimack raised $65 million in a series E private equity financing.

In April 2005, Merrimack closed equity and debt financings totaling $37.3 million, comprising $28.3 million of series D Preferred Stock and a $9 million venture loan.The funds would allow the company to advance its pipeline through several key milestones.

In May 2004, Merrimack secured $28 million in its series C financing.

R&D GRANTS

In January 2004, Merrimack was awarded a phase I SBIR grant by the National Cancer Institute to support the development and application of its microarray-based network biology platform to the areas of apoptosis and cancer.

SUBSIDIARY COMPANIES

Names
HERMES Biosciences
Atlantic Biopharmaceuticals Inc

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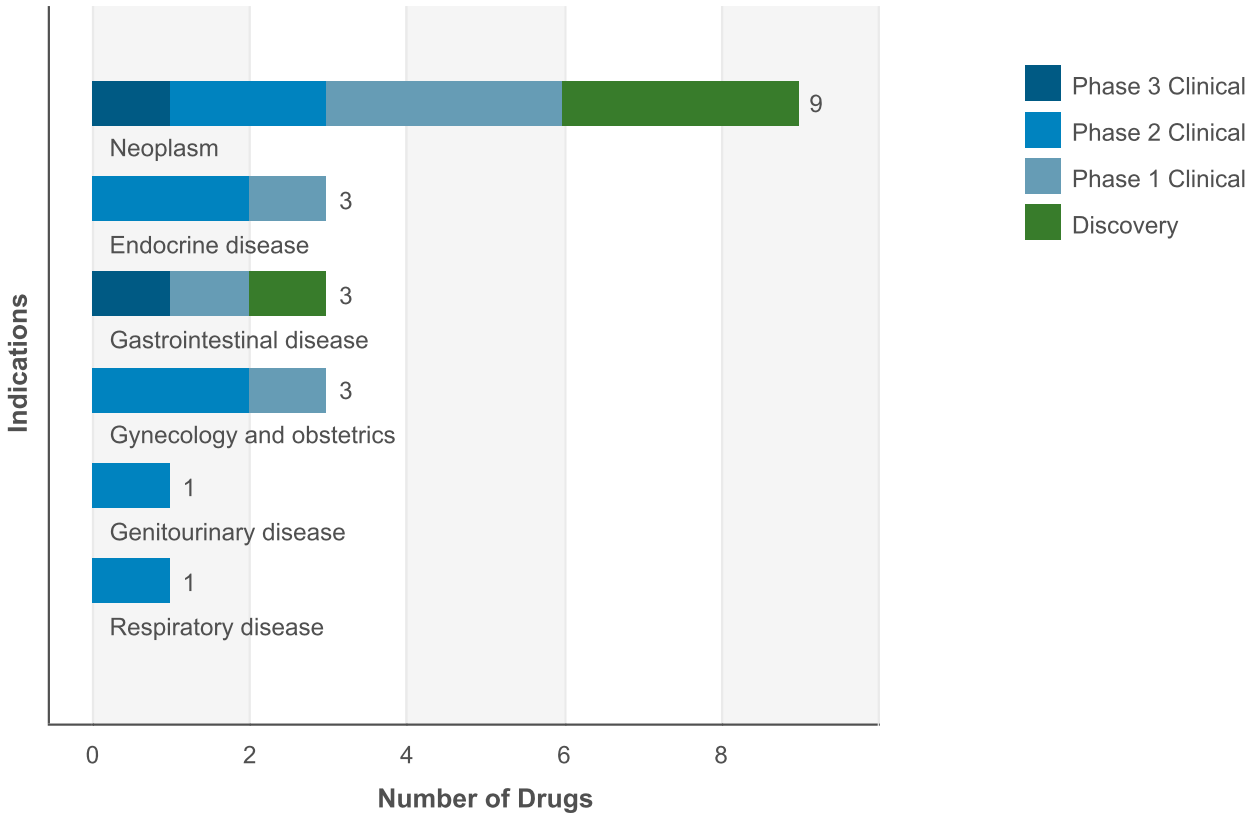
PRODUCT PORTFOLIO SUMMARY

DRUGS

Drugs by Indication

Active Drugs by Indication Chart



Drugs by Indication Table

Indication	Active	Inactive	Total
Neoplasm	9	6	15
Immune disorder	0	4	4
Gastrointestinal disease	3	1	4
Endocrine disease	3	0	3
Gynecology and obstetrics	3	0	3
Neurological disease	0	1	1
Hematological disease	0	1	1
Musculoskeletal disease	0	1	1

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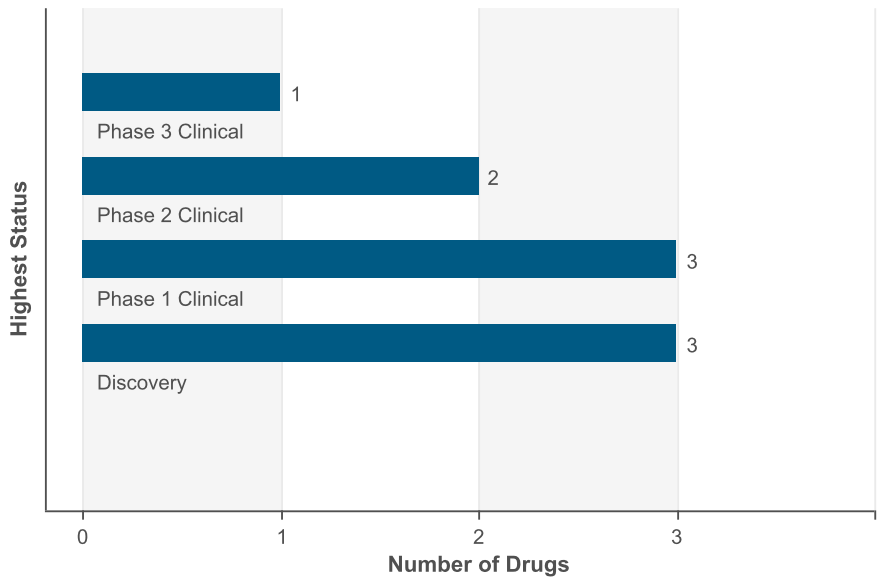
Dermatological disease	0	1	1
Ocular disease	0	1	1
Respiratory disease	1	0	1
Genitourinary disease	1	0	1
Inflammatory disease	0	1	1

Drugs by Highest Status

Active Drugs by Highest Status Chart



Drugs by Highest Status Table

Development Status	Number of Drugs
Phase 3 Clinical	1
Phase 2 Clinical	2
Phase 1 Clinical	3
Discovery	3
Discontinued	2
No Development Reported	6

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DEALS

Deal Type	Principal		Partner		Total
	Active	Inactive	Active	Inactive	
Drug - Discovery/Design	0	0	1	0	1
Technology - Other Proprietary	1	0	1	0	2
Patent - Exclusive Rights	0	0	1	0	1
Drug - Funding	1	0	0	0	1
Drug - Early Research/Development	1	0	0	0	1
Drug - Development/Commercialization License	5	0	0	0	5
Drug - Commercialization License	0	0	2	0	2
Drug - Manufacturing/Supply	0	0	2	0	2
Technology - Target Validation	1	0	0	0	1

CLINICAL TRIALS

Trials by Condition Studied

Condition Studied	Ongoing	All
Neoplasm	11	17
Gynecology and obstetrics	2	8
Endocrine disease	2	8
Inflammatory disease	0	4
Immune disorder	0	4
Gastrointestinal disease	1	3
Musculoskeletal disease	0	3
Respiratory disease	1	2
Genitourinary disease	1	2
Ocular disease	0	1
Dermatological disease	0	1

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Trials by Phase

Phase	Ongoing	All
Phase 3	1	1
Phase 2	3	8
Phase 1	7	12
Phase not specified	0	1

Phase Definitions

Phase 3 Clinical
Includes Phase 3, Phase 3b, Phase 3a, Phase 2/3 (where enrolment count is 300 or over)

Phase 2 Clinical
Includes Phase 2, Phase 2a, Phase 2b, Phase 1/2 (where enrolment count is 100 or over), Phase 2/3 (where enrolment count is under 300 or not specified)

Phase 1 Clinical
Includes Phase 1, Phase 1a, Phase 1, Phase 1/2 (where enrolment count is under 100 or not specified), Phase 0

PATENTS *

Indication	As Owner	As Third Party	Total
Immune disorder	9	4	13
Neoplasm	28	4	32
Ocular disease	3	0	3
Metabolic disorder	3	1	4
Mouth disease	1	0	1
Neurological disease	7	2	9
Cardiovascular disease	2	0	2
Endocrine disease	14	1	15
Genitourinary disease	6	0	6
Dermatological disease	6	0	6
Fatigue	1	0	1
Gastrointestinal disease	7	3	10
Growth disorder	1	0	1
Hematological disease	3	1	4
Musculoskeletal disease	6	2	8

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Respiratory disease	4	2	6
Infectious disease	5	1	6
Injury	1	1	2
Unidentified indication	0	1	1
Inflammatory disease	5	3	8
Gynecology and obstetrics	12	0	12

* This table represents a summary of the core patent coverage for this company covering Therapeutic EP, US and WO patents since 1990 only.

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PRODUCT PORTFOLIO DRUGS

PLEASE NOTE: Highest status refers to highest development of that drug for one of the active companies

irinotecan (nanoliposomal, cancer), PharmaEngine/Merrimack

Drug Name	irinotecan (nanoliposomal, cancer), PharmaEngine/Merrimack
Key Synonyms	irinotecan
Originator Company	HERMES Biosciences
Active Companies	Merrimack Pharmaceuticals Inc, PharmaEngine Inc
Inactive Companies	HERMES Biosciences
Highest Status	Phase 3 Clinical
Active Indications	Colorectal tumor, Pancreas tumor, Glioma, Stomach tumor, Metastatic pancreas cancer
Target-based Actions	Topoisomerase I inhibitor
Other Actions	Anticancer
Technologies	Liposome formulation, Nanoparticle formulation, Small molecule therapeutic
Last Change Date	20-Dec-2012

MM-121

Drug Name	MM-121
Key Synonyms	
Originator Company	Merrimack Pharmaceuticals Inc
Active Companies	Sanofi, Merrimack Pharmaceuticals Inc
Inactive Companies	
Highest Status	Phase 2 Clinical
Active Indications	Breast tumor, Peritoneal tumor, Endometrioid carcinoma, Advanced solid tumor, Fallopian tube cancer, Ovary tumor, Non-small-cell lung cancer
Target-based Actions	Erbb3 tyrosine kinase receptor inhibitor, Epidermal growth factor antagonist
Other Actions	Anticancer monoclonal antibody, Anticancer protein kinase inhibitor
Technologies	Monoclonal antibody human, Immunoglobulin-G, Intravenous formulation, Infusion, Biological therapeutic
Last Change Date	20-Nov-2012

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MM-111

Drug Name	MM-111
Key Synonyms	
Originator Company	Merrimack Pharmaceuticals Inc
Active Companies	Merrimack Pharmaceuticals Inc
Inactive Companies	
Highest Status	Phase 2 Clinical
Active Indications	Solid tumor, Breast tumor, Stomach tumor
Target-based Actions	Erbb3 tyrosine kinase receptor inhibitor, Erbb2 tyrosine kinase receptor inhibitor
Other Actions	Anticancer protein kinase inhibitor, Anticancer monoclonal antibody
Technologies	Monoclonal antibody human, Multivalent monoclonal antibody, Intravenous formulation, Biological therapeutic
Last Change Date	15-Nov-2012

MM-141

Drug Name	MM-141
Key Synonyms	
Originator Company	Merrimack Pharmaceuticals Inc
Active Companies	Merrimack Pharmaceuticals Inc
Inactive Companies	
Highest Status	Phase 1 Clinical
Active Indications	Solid tumor, Cancer
Target-based Actions	Erbb3 tyrosine kinase receptor inhibitor, Insulin-like growth factor 1 antagonist
Other Actions	Anticancer protein kinase inhibitor, Anticancer monoclonal antibody
Technologies	Monoclonal antibody human, Multivalent monoclonal antibody, Biological therapeutic, Parenteral formulation unspecified
Last Change Date	13-Dec-2012

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MM-151

Drug Name	MM-151
Key Synonyms	
Originator Company	Merrimack Pharmaceuticals Inc
Active Companies	Merrimack Pharmaceuticals Inc
Inactive Companies	
Highest Status	Phase 1 Clinical
Active Indications	Cancer, Advanced solid tumor
Target-based Actions	
Other Actions	Anticancer monoclonal antibody, Epidermal growth factor modulator, Anticancer polyclonal antibody
Technologies	Monoclonal antibody human, Drug combination, Antibody polyclonal, Biological therapeutic, Parenteral formulation unspecified
Last Change Date	13-Jan-2012

doxorubicin-antibody conjugate (ErbB2 targeting nanoliposome, cancer), Merrimack

Drug Name	doxorubicin-antibody conjugate (ErbB2 targeting nanoliposome, cancer), Merrimack
Key Synonyms	
Originator Company	HERMES Biosciences
Active Companies	Merrimack Pharmaceuticals Inc
Inactive Companies	HERMES Biosciences
Highest Status	Phase 1 Clinical
Active Indications	Breast tumor
Target-based Actions	Erbb2 tyrosine kinase receptor modulator, DNA polymerase inhibitor, Topoisomerase II inhibitor
Other Actions	DNA intercalator, Anticancer, Anticancer antibody
Technologies	Liposome formulation, Antibody conjugated, Nanoparticle formulation injectable, Intravenous formulation, Biological therapeutic
Last Change Date	02-Jan-2013

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MM-131

Drug Name	MM-131
Key Synonyms	
Originator Company	Merrimack Pharmaceuticals Inc
Active Companies	Merrimack Pharmaceuticals Inc
Inactive Companies	
Highest Status	Discovery
Active Indications	Cancer
Target-based Actions	
Other Actions	Anticancer monoclonal antibody
Technologies	Monoclonal antibody, Biological therapeutic, Parenteral formulation unspecified
Last Change Date	15-Oct-2012

MM-310

Drug Name	MM-310
Key Synonyms	
Originator Company	Merrimack Pharmaceuticals Inc
Active Companies	Merrimack Pharmaceuticals Inc
Inactive Companies	
Highest Status	Discovery
Active Indications	Cancer
Target-based Actions	
Other Actions	Anticancer, Unspecified drug target
Technologies	Nanoparticle formulation, Small molecule therapeutic
Last Change Date	02-Sep-2011

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MMDX-929

Drug Name	MMDX-929
Key Synonyms	
Originator Company	Merrimack Pharmaceuticals Inc
Active Companies	Merrimack Pharmaceuticals Inc
Inactive Companies	
Highest Status	Discovery
Active Indications	Cancer
Target-based Actions	
Other Actions	Neoplasm diagnostic agent, Radiodiagnostic, PET contrast agent
Technologies	Liposome formulation, Imaging
Last Change Date	02-Jan-2013

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