

Heat Biologics

COMPANY AND PIPELINE OVERVIEW REPORT

Coverage of the company and a summary of the drug pipeline portfolio.

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ABOUT COMPANY AND PIPELINE OVERVIEW REPORT

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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 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i.e. where the development status for the drug(s) is one of the following: No Development Reported, Discontinued, or Withdrawn.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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Heat Biologics

COMPANY OVERVIEW

| Company Name | Heat Biologics |
|--|---|
| Parent Company Name | Heat Biologics |
| Website | http://www.heatbio.com/ |
| Country | US |
| Number of Drugs in Active Development | 5 |
| Number of Inactive Drugs | 3 |
| Number of Patents as Owner | 1 |
| Number of Patents as Third Party | 2 |
| Number of Deals | 1 |
| Key Indications | Ovary tumor,HIV infection,Non-small-cell lung cancer,Bladder cancer,Metastatic non small cell lung cancer,Lung tumor,Adenocarcinoma,Cancer,Lymphoma |
| Key Target-based Actions | Endoplasmin modulator,CD80 modulator,Death receptor-3 antagonist,HLA antigen modulator,Tumor necrosis factor 15 ligand inhibitor,Tumor necrosis factor 15 ligand modulator,Endoplasmin stimulator,B-lymphocyte antigen CD20 inhibitor,CD74 antagonist,CD80 gene stimulator,HIV gp120 protein stimulator,HLA gene stimulator |
| Key Technologies | Biological therapeutic,Parenteral formulation unspecified,Protein fusion,Cell therapy,Antigen,Antibody fragment,Monoclonal antibody,Injectable formulation,Chimeric antibody,Drug combination,Polynucleotide sequence,Protein recombinant,Tumor antigen,Vector expression |

COMPANY PROFILE

SUMMARY

Heat Biologics is a clinical-stage company, formed in July 2008, by Seed One Ventures and The University of Miami Miller School of Medicine to advance Heatshock and Inhibicor technology developed by researchers at the University. The company focuses on development of its novel "ImPACT" (Immune Pan-Antigen Cytotoxic Therapy) off-the-shelf therapeutic vaccines to combat a wide range of cancers and other diseases.

FINANCIAL

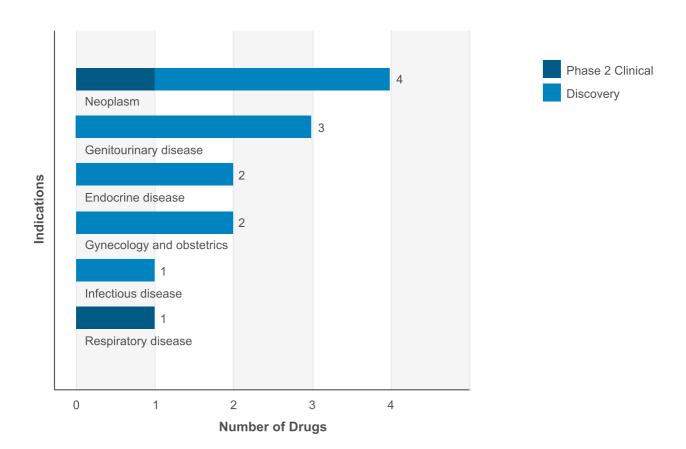
In May 2010, the company closed an initial round of funding.

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PRODUCT PORTFOLIO SUMMARY DRUGS

Drugs by Indication

Active Drugs by Indication Chart



Drugs by Indication Table

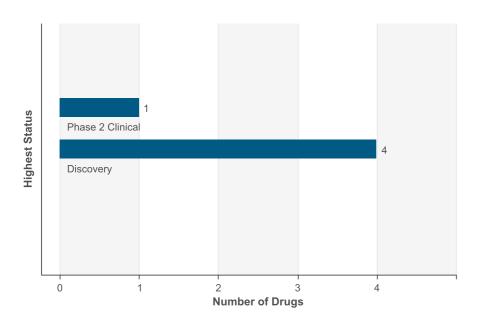
| Indication | Active | Inactive | Total |
|---------------------------|--------|----------|-------|
| Neoplasm | 4 | 0 | 4 |
| Genitourinary disease | 3 | 0 | 3 |
| Respiratory disease | 1 | 1 | 2 |
| Gynecology and obstetrics | 2 | 0 | 2 |
| Endocrine disease | 2 | 0 | 2 |
| Infectious disease | 1 | 1 | 2 |
| Gastrointestinal disease | 0 | 2 | 2 |
| Inflammatory disease | 0 | 2 | 2 |



| Prophylaxis | 0 | 1 | 1 |
|--------------------|---|---|---|
| Immune disorder | 0 | 1 | 1 |
| Surgical procedure | 0 | 1 | 1 |

Drugs by Highest Status

Active Drugs by Highest Status Chart



Drugs by Highest Status Table

| Development Status | Number of Drugs |
|-------------------------|-----------------|
| Phase 2 Clinical | 1 |
| Discovery | 4 |
| No Development Reported | 3 |

DEALS

| Deal Type | | cipal | | tner | Total |
|----------------|--------|----------|--------|----------|-------|
| | Active | inactive | Active | Inactive | |
| Drug - Funding | 1 | 0 | 0 | 0 | 1 |



CLINICAL TRIALS

Trials by Condition Studied

| Condition Studied | Ongoing | All |
|---------------------|---------|-----|
| Neoplasm | 0 | 1 |
| Respiratory disease | 0 | 1 |

Trials by Phase

| Phase | Ongoing | All |
|---------|---------|-----|
| Phase 2 | 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 |
|-----------------------|----------|----------------|-------|
| Hematological disease | 0 | 1 | 1 |
| Immune disorder | 0 | 1 | 1 |
| Neoplasm | 0 | 2 | 2 |
| Respiratory disease | 0 | 2 | 2 |
| Infectious disease | 1 | 0 | 1 |

^{*} 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

HS-110

| Drug Name | HS-110 |
|----------------------|---|
| Key Synonyms | |
| Originator Company | Heat Biologics |
| Active Companies | Heat Biologics |
| Inactive Companies | |
| Highest Status | Phase 2 Clinical |
| Active Indications | Metastatic non small cell lung cancer, Non-small-cell lung cancer |
| Target-based Actions | Endoplasmin modulator, HLA antigen modulator, CD80 modulator |
| Other Actions | Genetically engineered autologous cell vaccine, Therapeutic vaccine, Anticancer |
| Technologies | Cell therapy, Injectable formulation, Antigen, Biological therapeutic, Parenteral formulation unspecified, Protein fusion |
| Last Change Date | 28-Feb-2013 |

HS-HIV/SIV

| Drug Name | HS-HIV/SIV |
|----------------------|--|
| Key Synonyms | |
| Originator Company | Heat Biologics |
| Active Companies | Heat Biologics |
| Inactive Companies | |
| Highest Status | Discovery |
| Active Indications | HIV infection |
| Target-based Actions | Endoplasmin modulator |
| Other Actions | Genetically engineered autologous cell vaccine, Therapeutic vaccine, Prophylactic vaccine, Antiviral |
| Technologies | Antibody fragment, Cell therapy, Antigen, Biological therapeutic, Protein fusion |
| Last Change Date | 27-Apr-2012 |



HS-210

| Drug Name | HS-210 |
|----------------------|--|
| Key Synonyms | |
| Originator Company | Heat Biologics |
| Active Companies | Heat Biologics |
| Inactive Companies | |
| Highest Status | Discovery |
| Active Indications | Ovary tumor |
| Target-based Actions | Endoplasmin modulator |
| Other Actions | Anticancer, Therapeutic vaccine, Genetically engineered autologous cell vaccine |
| Technologies | Antibody fragment, Cell therapy, Antigen, Biological therapeutic, Parenteral formulation unspecified, Protein fusion |
| Last Change Date | 27-Apr-2012 |
| | |

HS-310

| Drug Name | HS-310 |
|----------------------|--|
| Key Synonyms | |
| Originator Company | Heat Biologics |
| Active Companies | Heat Biologics |
| Inactive Companies | |
| Highest Status | Discovery |
| Active Indications | Ovary tumor |
| Target-based Actions | Endoplasmin modulator |
| Other Actions | Anticancer, Therapeutic vaccine, Genetically engineered autologous cell vaccine |
| Technologies | Antibody fragment, Cell therapy, Antigen, Biological therapeutic, Parenteral formulation unspecified, Protein fusion |
| Last Change Date | 27-Apr-2012 |

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HS-410

| Drug Name | HS-410 |
|----------------------|---|
| Key Synonyms | |
| Originator Company | Heat Biologics |
| Active Companies | Heat Biologics |
| Inactive Companies | |
| Highest Status | Discovery |
| Active Indications | Bladder cancer |
| Target-based Actions | Endoplasmin modulator |
| Other Actions | Therapeutic vaccine, Anticancer, Genetically engineered autologous cell vaccine |
| Technologies | Antibody fragment, Cell therapy, Biological therapeutic, Parenteral formulation unspecified, Protein fusion |
| Last Change Date | 18-Jul-2012 |



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