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CORTELLIS™

# Immune Design Corp

## CORTELLIS COMPANY DETAILED PIPELINE REPORT

A comprehensive coverage of the the company's drug pipeline portfolio including detailed product records.

Publication Date: 25-Apr-2015

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# ABOUT CORTELLIS COMPANY DETAILED PIPELINE 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 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i.e. where the development status for the drug(s) is one of the following: No Development Reported, Discontinued, or Withdrawn.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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# Immune Design Corp

## COMPANY OVERVIEW

| | |
|---|---|
| **Company Name** | Immune Design Corp |
| **Parent Company Name** | Immune Design Corp |
| **Website** | http://www.immunedesign.com/ |
| **Country** | US |
| **Number of Drugs in Active Development** | 9 |
| **Number of Inactive Drugs** | 2 |
| **Number of Patents as Owner** | 12 |
| **Number of Patents as Third Party** | 0 |
| **Number of Deals** | 16 |
| **Key Indications** | Cancer,HSV-2 infection,Food hypersensitivity,SARS coronavirus infection,Solid tumor,Vaccination,Colon tumor,Merkel cell carcinoma,Prostate tumor,Viral infection |
| **Key Target-based Actions** | TLR-4 agonist,T-cell surface glycoprotein CD8 stimulator,Cancer testis antigen NY-ESO-1 inhibitor,Cancer testis antigen NY-ESO-1 modulator,TLR-4 antagonist,Carbonic anhydrase-IX stimulator,Glutamate carboxypeptidase II stimulator,HIV GAG protein stimulator,Hemagglutinin stimulator,Homeobox protein Nkx 3.1 stimulator,Prostate specific antigen stimulator,Prostatic acid phosphatase stimulator,Rev protein stimulator,TLR agonist,Viral envelope glycoprotein stimulator |
| **Key Technologies** | Biological therapeutic,Parenteral formulation unspecified,Virus recombinant,Systemic formulation unspecified,Drug combination,Intradermal formulation,Intramuscular formulation,Intratumoral formulation,Antigen,Lipid,Liquid formulation |

## COMPANY PROFILE

### SUMMARY

Immune Design, founded in 2008, a spin-off of California Institute of Technology, aims to develop prophylactic and therapeutic vaccines for infectious diseases, cancer, allergy and autoimmune disorders. The company has identified improved adjuvants and novel technologies targeting and controlling dendritic cells.

In April 2014, the Paris Commercial Court found, among other things, that Henogen SA had breached its contractual obligations to THERAVECTYS by making lentiviral vectors for Immune Design Corp (IDC). In July 2014, THERAVECTYS filed a lawsuit against IDC in the Delaware Court of Chancery, to seek preliminary and permanent injunctive relief, and also monetary damages. THERAVECTYS raised claims of tortious interference with contractual relations, misappropriation of trade secrets, unfair competition and unjust enrichment, by manufacture of lentiviral vectors for IDC by Henogen.

### COMPANY LOCATION

The company is headquartered in Seattle, WA.

By October 2013, the company had expanded operations to include a San Francisco office with plans to further expand in the Bay Area.

### LICENSING AGREEMENTS

In November 2008, the Immune Design Corp was granted a license to the Infectious Disease Research Institute (IDRI)'s Glycopyranosyl Lipid Adjuvant (GLA) technology, for combination with undisclosed therapeutic vaccine products in a number of indications. IDRI would retain worldwide exclusive rights to develop the technology for products against certain indications, including infectious disease, in the developing world, and would retain rights to develop the technology non-commercially for provision to not-for-profit organizations. Immune Design concurrently established its Global Access Plan, to provide better access to GLA-formulated products for diseases in the developing world.

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### FINANCIAL

In April 2015, the company priced an underwritten public offering of 3 million common stock shares at a price of $26.50 per share to raise gross proceeds of approximately $79.5 million. The underwriters were granted a 30-day option to purchase up to 450,000 additional shares of common stock at the offering price. The offering was expected to close on April 21, 2015.

In October 2014, the company was added to the Russell 2000 Index.

In July 2014, immune design planned to raise $60 million from an initial offering of 5,000,000 shares, priced at $12 per share. The company also granted the underwriters a 30-day option to purchase up to 750,000 additional shares of common stock. At that time, the offering was expected to close on July 29, 2014. The shares had begun trading on the NASDAQ Global Market under the symbol "IMDZ". Later in July 2014, the company raised gross proceeds of $60 million from the closed offering.

In October 2013, the company raised $49 million in a series C financing which included an upfront investment of $32.5 million, with an additional investment of $16.5 million.

In July 2010, Immune Design secured $32 million in series B financing.

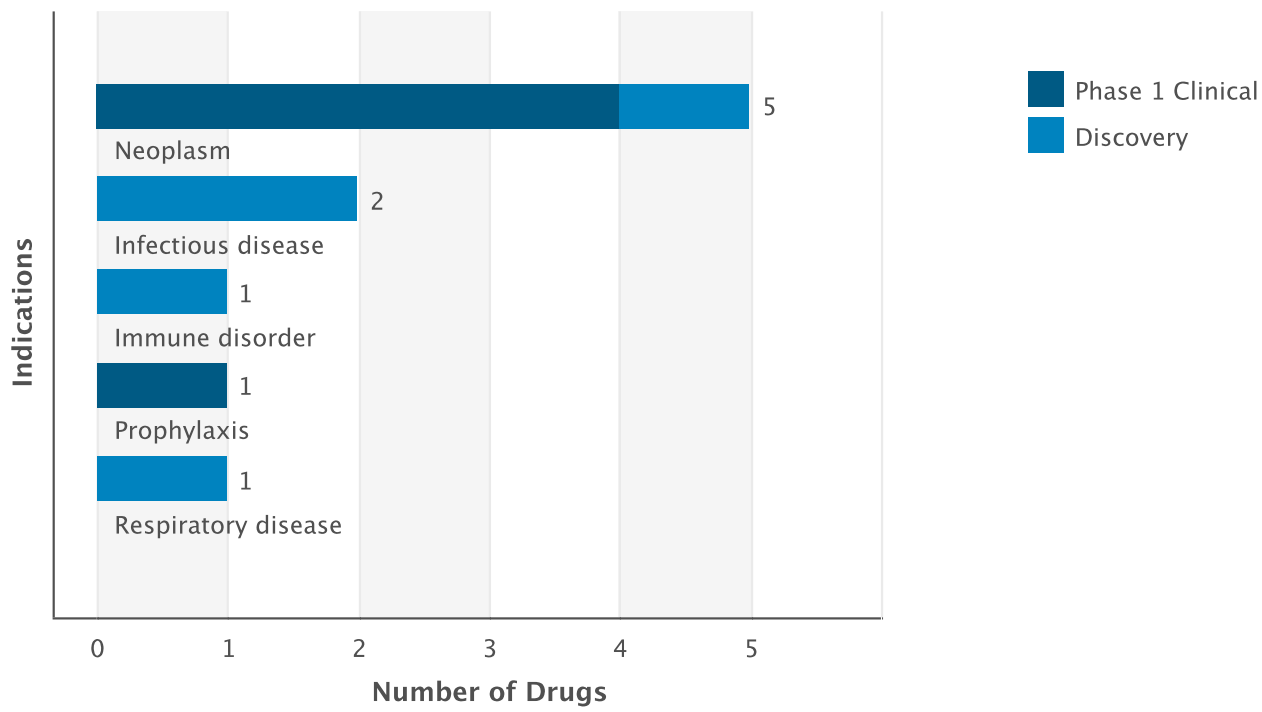
In June 2008, Immune Design raised $18 million in series A financing.

## PRODUCT PORTFOLIO SUMMARY

### DRUGS

Drugs by Indication

Active Drugs by Indication Chart

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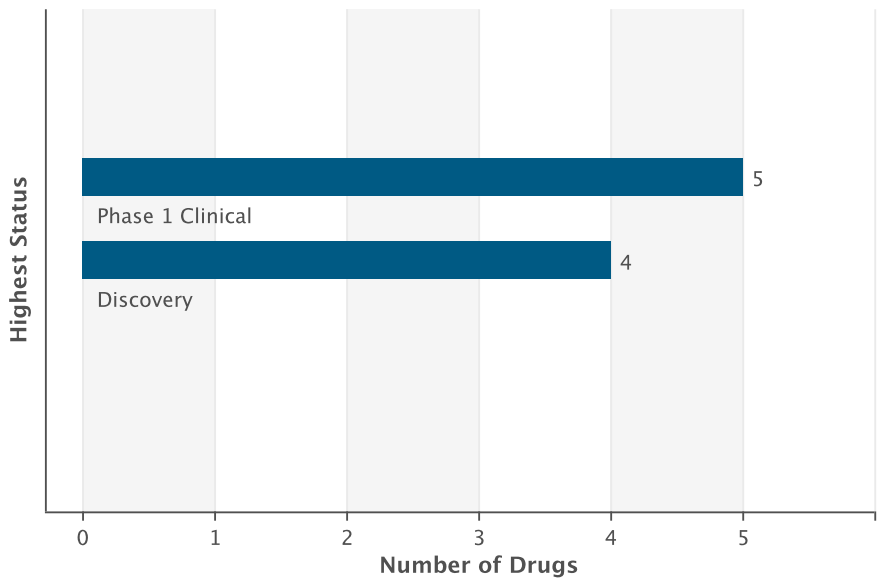
Drugs by Indication Table

| Indication | Active | Inactive | Total |
|---|---|---|---|
| Neoplasm | 5 | 0 | 5 |
| Infectious disease | 2 | 2 | 4 |
| Respiratory disease | 1 | 2 | 3 |
| Prophylaxis | 1 | 1 | 2 |
| Immune disorder | 1 | 0 | 1 |

## Drugs by Highest Status

Active Drugs by Highest Status Chart




Drugs by Highest Status Table

| Development Status | Number of Drugs |
|---|---|
| Phase 1 Clinical | 5 |
| Discovery | 4 |
| No Development Reported | 2 |

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## DEALS

| Deal Type | Principal | | Partner | | Total |
|---|---|---|---|---|---|
| | Active | Inactive | Active | Inactive | |
| Technology - Other Proprietary | 1 | 0 | 0 | 0 | 1 |
| Drug - Early Research/Development | 1 | 0 | 0 | 0 | 1 |
| Drug - Development/Commercialization License | 5 | 0 | 1 | 0 | 6 |
| Drug - Development Services | 0 | 0 | 6 | 0 | 6 |
| Technology - Delivery/Formulation | 1 | 0 | 1 | 0 | 2 |

## CLINICAL TRIALS

### Trials by Condition Studied

| Condition Studied | Ongoing | All |
|---|---|---|
| Neoplasm | 4 | 6 |
| Dermatological disease | 2 | 3 |
| Endocrine disease | 2 | 2 |
| Gynecology and obstetrics | 2 | 2 |
| Genitourinary disease | 2 | 2 |
| Respiratory disease | 2 | 2 |
| Musculoskeletal disease | 1 | 1 |

### Trials by Phase

| Phase | Ongoing | All |
|---|---|---|
| Phase 2 | 0 | 1 |
| Phase 1 | 4 | 6 |

**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

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## PATENTS *

| Indication | As Owner | As Third Party | Total |
|---|---|---|---|
| Endocrine disease | 1 | 0 | 1 |
| Gastrointestinal disease | 1 | 0 | 1 |
| Genitourinary disease | 1 | 0 | 1 |
| Andrology | 1 | 0 | 1 |
| Immune disorder | 4 | 0 | 4 |
| Psychiatric disorder | 1 | 0 | 1 |
| Neoplasm | 8 | 0 | 8 |
| Neurological disease | 1 | 0 | 1 |
| Respiratory disease | 4 | 0 | 4 |
| Infectious disease | 11 | 0 | 11 |
| Toxicity and intoxication | 1 | 0 | 1 |
| Inflammatory disease | 1 | 0 | 1 |
| Otorhinolaryngological disease | 1 | 0 | 1 |
| Gynecology and obstetrics | 1 | 0 | 1 |
| Dermatological 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 DRUG PIPELINE DETAIL

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

## glucopyranosyl lipid A adjuvant, Immune Design Corp

### glucopyranosyl lipid A adjuvant, Immune Design Corp SNAPSHOT

| | |
|---|---|
| **Drug Name** | glucopyranosyl lipid A adjuvant, Immune Design Corp |
| **Key Synonyms** | |
| **Originator Company** | Infectious Disease Research Institute |
| **Active Companies** | Immune Design Corp |
| **Inactive Companies** | Infectious Disease Research Institute |
| **Highest Status** | Phase 1 Clinical |
| **Active Indications** | Vaccination |
| **Target-based Actions** | TLR-4 agonist |
| **Other Actions** | Adjuvant;Immunostimulant |
| **Technologies** | Small molecule therapeutic;Systemic formulation unspecified |
| **Last Change Date** | 28-Jan-2015 |

### glucopyranosyl lipid A adjuvant, Immune Design Corp DEVELOPMENT PROFILE

#### SUMMARY

Immune Design Corp, under license licensed from Infectious Disease Research Institute, is developing a glucopyranosyl lipid A (GLA) adjuvant, a small molecule toll-like receptor 4 (TLR-4) agonist, which stimulates TH1 cytokine production to enhance an immune response, to be used in combination with vaccines,. In July 2011, a phase I trial was initiated. In February 2013, development was ongoing. In April 2014, a proof-of-concept trial assessing the intratumoral injection of GLA in patients with merkel cell carcinoma (MCC) was planned. In January 2015, a phase I trial was planned to be initiated. At that time, the trial was expected to complete in May 2016

MedImmune and Sanofi are investigating vaccines comprising Immune Design's GLA adjuvant for the potential treatment of infections and allergy respectively.

### glucopyranosyl lipid A adjuvant, Immune Design Corp DEVELOPMENT STATUS

#### CURRENT DEVELOPMENT STATUS

| Company | Indication | Country | Development Status | Date |
|---|---|---|---|---|
| Immune Design Corp | Vaccination | US | Phase 1 Clinical | 31-Jul-2011 |
| Infectious Disease Research Institute | Vaccination | US | Discontinued | 20-Nov-2008 |

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## glucopyranosyl lipid A adjuvant, Immune Design Corp DRUG NAMES

| Names | Type |
|---|---|
| GLA-AF | Research Code |
| glycopyranosyl lipid adjuvant, Immune Design Corp | |
| GLA-SE | Research Code |
| glucopyranosyl lipid A adjuvant, Immune Design Corp | |
| glycopyranosyl lipid adjuvant, Infectious Disease Research Institute | |
| glucopyranosyl lipid adjuvant, MedImmune | |
| glucopyranosyl lipid adjuvant, Infectious Disease Research Institute | |

## glucopyranosyl lipid A adjuvant, Immune Design Corp CLINICAL TRIALS

### Trials by Phase and Condition Studied

| Phase 4 Clinical | | Phase 3 Clinical | | Phase 2 Clinical | | Phase 1 Clinical | | Phase Unspecified | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| On-going | All | On-going | All | On-going | All | On-going | All | On-going | All | On-going | All |
| Hookworm infection | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 2 |
| Stage II melanoma | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
| Sarcoma | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| Stage III melanoma | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
| Stage IV melanoma | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |

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Total Trials by Phase and Status

| Phase 4 Clinical | | Phase 3 Clinical | | Phase 2 Clinical | | Phase 1 Clinical | | Phase Unspecified | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| On-going | All | On-going | All | On-going | All | On-going | All | On-going | All | On-going | All |
| **Total by Phase and Status** | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 6 | 9 | 1 | 1 | 7 | 10 |

**Phase Definitions**

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

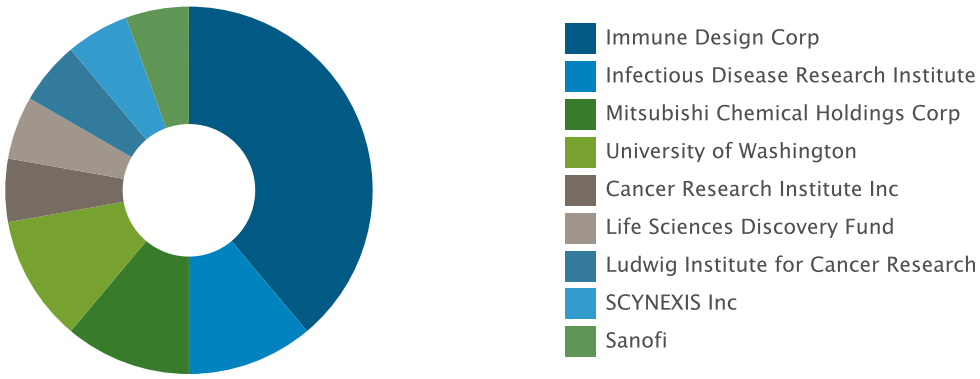
**Phase 2 Clinical**
Includes Phase 2, Phase 2a, Phase 2b, Phase 1/2 (where enrolment count is 100 or over), Phase 2/3 (where enrolment count is under 300 or not specified)

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

## glucopyranosyl lipid A adjuvant, Immune Design Corp DEALS AND PATENTS

## DEALS

### Deals by Parent Company Chart




**Active Deals**
Total: 9

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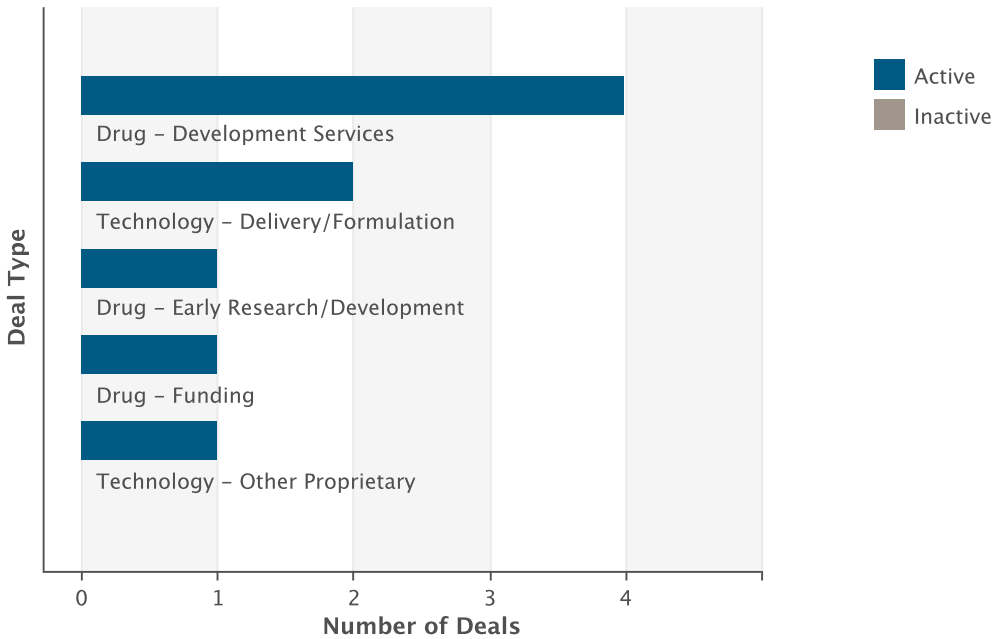
## Deals by Parent Company Table

| Company Name | Principal | | Partner | | Total |
|---|---|---|---|---|---|
| | Active | Inactive | Active | Inactive | |
| Immune Design Corp | 2 | 0 | 5 | 0 | 7 |
| Mitsubishi Chemical Holdings Corp | 1 | 0 | 1 | 0 | 2 |
| Infectious Disease Research Institute | 1 | 0 | 1 | 0 | 2 |
| University of Washington | 2 | 0 | 0 | 0 | 2 |
| Life Sciences Discovery Fund | 0 | 0 | 1 | 0 | 1 |
| Sanofi | 0 | 0 | 1 | 0 | 1 |
| Ludwig Institute for Cancer Research | 1 | 0 | 0 | 0 | 1 |
| SCYNEXIS Inc | 1 | 0 | 0 | 0 | 1 |
| Cancer Research Institute Inc | 1 | 0 | 0 | 0 | 1 |

## Deals by Type Chart

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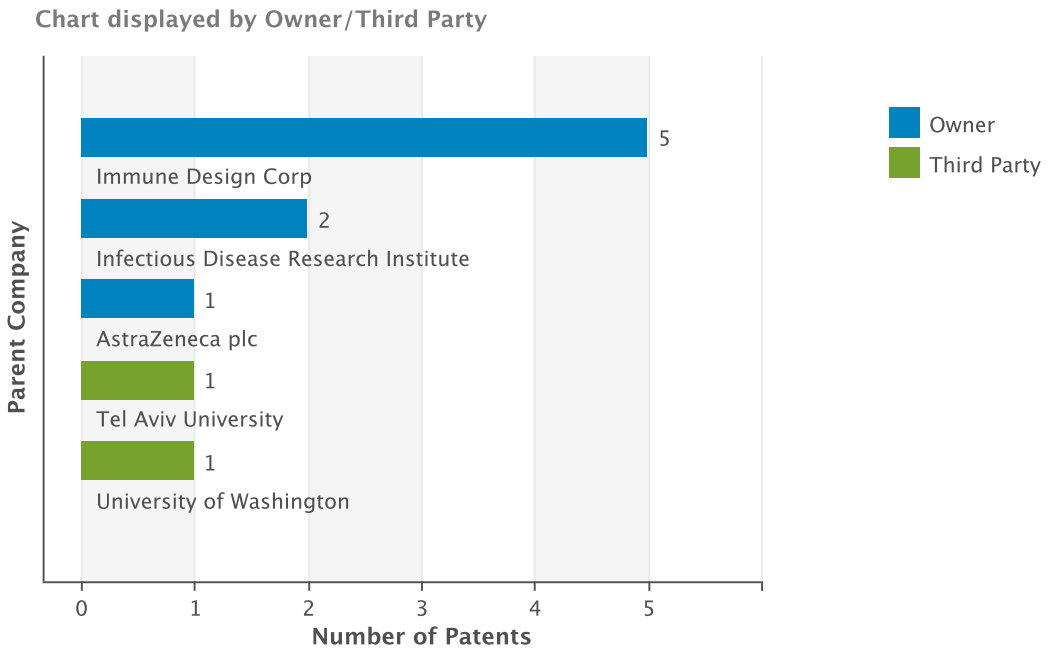
### Deals by Type Table

| Deal Type | Active | Inactive | Total |
|---|---|---|---|
| Drug - Development Services | 4 | 0 | 4 |
| Technology - Delivery/Formulation | 2 | 0 | 2 |
| Drug - Early Research/Development | 1 | 0 | 1 |
| Drug - Funding | 1 | 0 | 1 |
| Technology - Other Proprietary | 1 | 0 | 1 |

## PATENTS

### Patents by Parent Company Chart




### Patents by Parent Company Table

| Company Name | As Owner | As Third Party | Total |
|---|---|---|---|
| Immune Design Corp | 5 | 0 | 5 |
| Infectious Disease Research Institute | 2 | 0 | 2 |
| University of Washington | 0 | 1 | 1 |
| AstraZeneca plc | 1 | 0 | 1 |
| Tel Aviv University | 0 | 1 | 1 |

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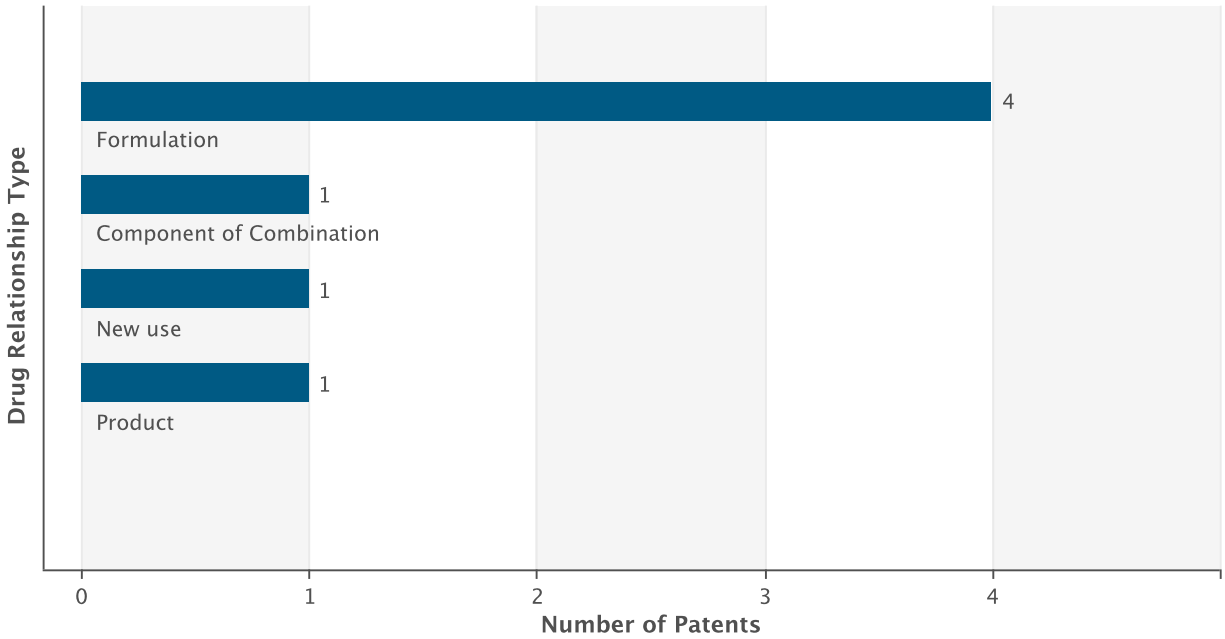
## Patents by Drug Relationship Type Chart




## Patents by Drug Relationship Type Table

| Drug Relationship | Total |
|---|---|
| Formulation | 4 |
| Product | 1 |
| Component of Combination | 1 |
| New use | 1 |

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# LV-305

## LV-305 SNAPSHOT

| | |
|---|---|
| **Drug Name** | LV-305 |
| **Key Synonyms** | |
| **Originator Company** | Immune Design Corp |
| **Active Companies** | Immune Design Corp |
| **Inactive Companies** | |
| **Highest Status** | Phase 1 Clinical |
| **Active Indications** | Cancer |
| **Target-based Actions** | T-cell surface glycoprotein CD8 stimulator;Cancer testis antigen NY-ESO-1 inhibitor |
| **Other Actions** | Therapeutic vaccine;Anticancer;Retrovirus based gene therapy |
| **Technologies** | Intradermal formulation;Biological therapeutic;Parenteral formulation unspecified;Virus recombinant |
| **Last Change Date** | 01-Apr-2015 |

## LV-305 DEVELOPMENT PROFILE

## SUMMARY

Immune Design is developing LV-305 (ID-LV305), a vaccine based on ID-LV (presumed to be DC-NILV), an integration-defective dendritic cell-targeted lentiviral vector acting by producing CD8 T cell responses and expresses three undisclosed tumor antigens, which target NY-ESO-1 antigen, developed from DCVex lentiviral vector platform, for the potential treatment of cancer including prostate cancer,,,. In April 2014, a phase I trial was initiated. In November 2014, a phase I expansion study was expected to be initiated in the first quarter of 2015.

The company is also investigating LV-305, in combination with G-305 for solid tumors.

## LV-305 DEVELOPMENT STATUS

### CURRENT DEVELOPMENT STATUS

| Company | Indication | Country | Development Status | Date |
|---|---|---|---|---|
| Immune Design Corp | Cancer | US | Phase 1 Clinical | 25-Apr-2014 |

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## LV-305 DRUG NAMES

| Names | Type |
|---|---|
| DC-NILV-based cancer vaccine, Immune Design | |
| LV-305 | Research Code |
| ID-LV305 | Research Code |
| ID-LV based cancer vaccine, Immune Design | |

## LV-305 CLINICAL TRIALS

### Trials by Phase and Condition Studied

| Phase 4 Clinical | | Phase 3 Clinical | | Phase 2 Clinical | | Phase 1 Clinical | | Phase Unspecified | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| On-going | All | On-going | All | On-going | All | On-going | All | On-going | All | On-going | All |
| Metastasis | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |

### Total Trials by Phase and Status

| Phase 4 Clinical | | Phase 3 Clinical | | Phase 2 Clinical | | Phase 1 Clinical | | Phase Unspecified | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| On-going | All | On-going | All | On-going | All | On-going | All | On-going | All | On-going | All |
| **Total by Phase and Status** | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 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

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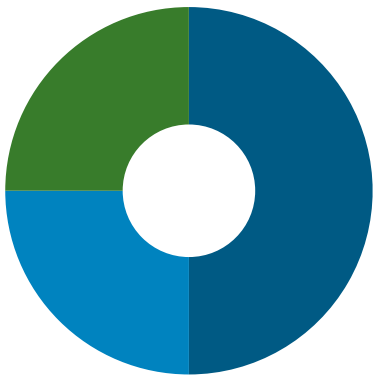
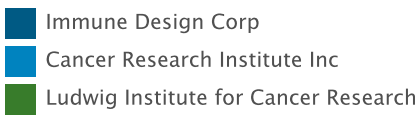
## LV-305 DEALS AND PATENTS

### DEALS

#### Deals by Parent Company Chart




#### Deals by Parent Company Table

| Company Name | Principal | | Partner | | Total |
|---|---|---|---|---|---|
| | Active | Inactive | Active | Inactive | |
| Immune Design Corp | 0 | 0 | 2 | 0 | 2 |
| Ludwig Institute for Cancer Research | 1 | 0 | 0 | 0 | 1 |
| Cancer Research Institute Inc | 1 | 0 | 0 | 0 | 1 |

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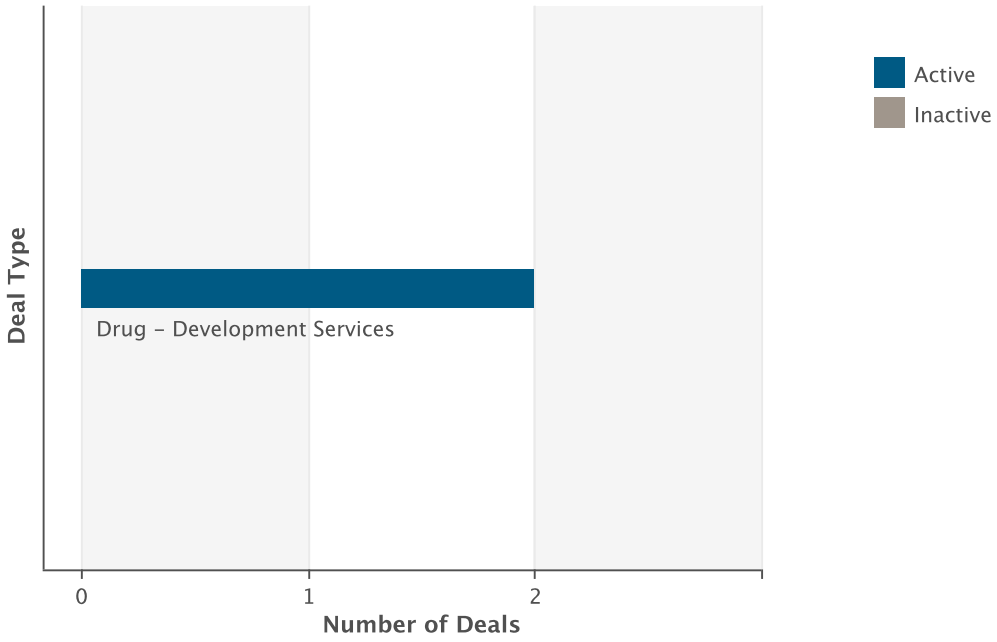
## Deals by Type Chart




## Deals by Type Table

| Deal Type | Active | Inactive | Total |
|---|---|---|---|
| Drug - Development Services | 2 | 0 | 2 |

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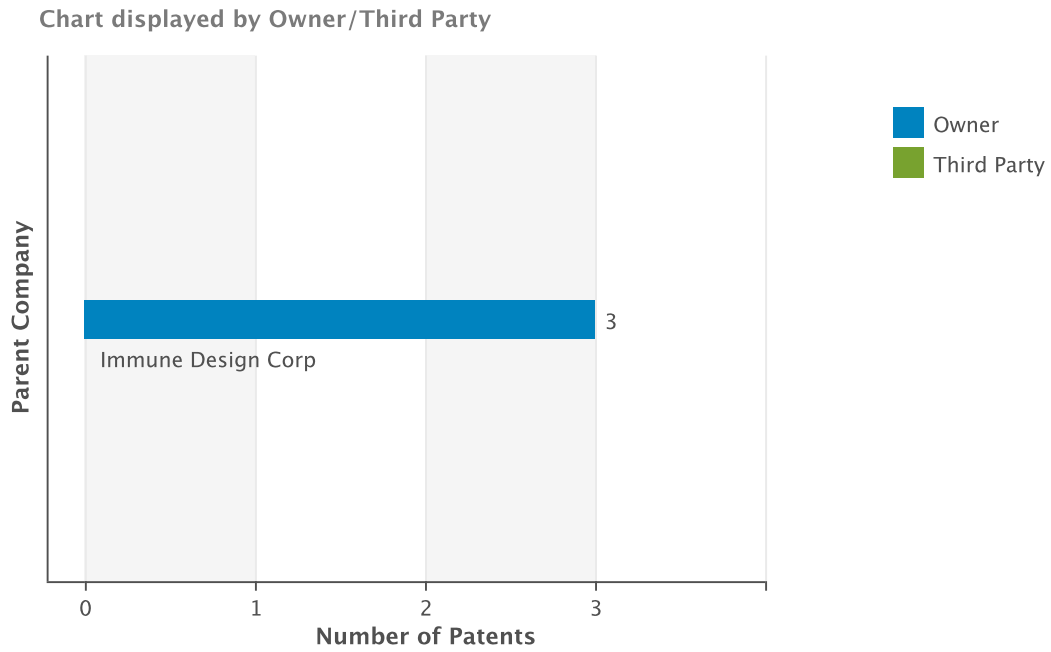
## PATENTS

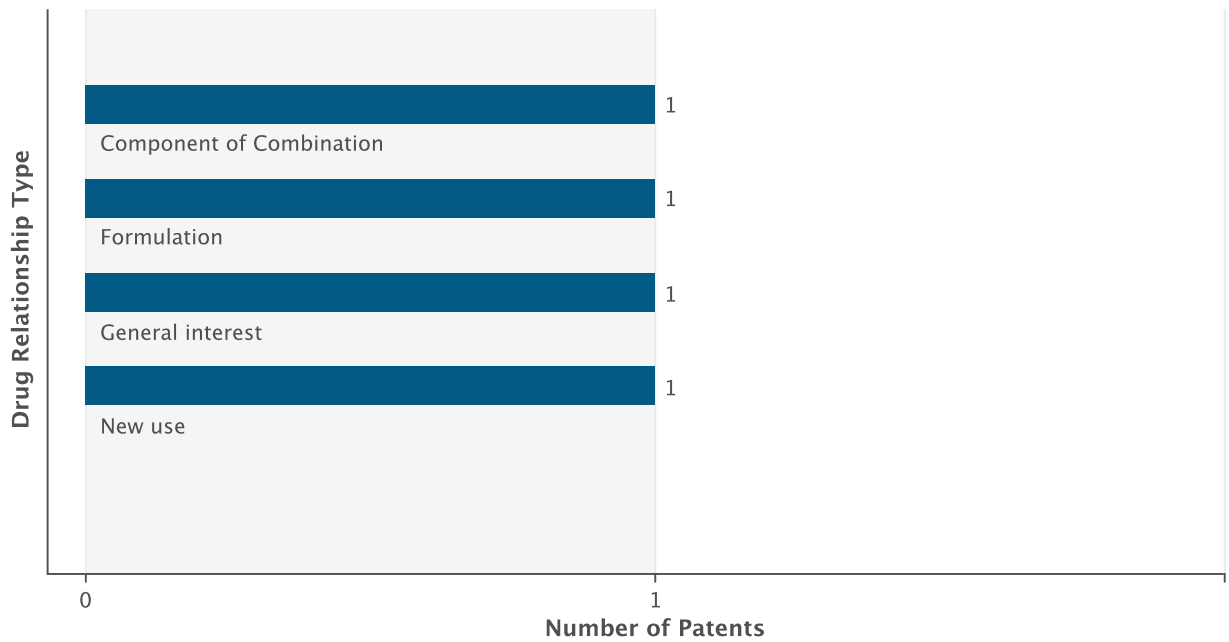
### Patents by Parent Company Chart




### Patents by Parent Company Table

| Company Name | As Owner | As Third Party | Total |
|---|---|---|---|
| Immune Design Corp | 3 | 0 | 3 |

### Patents by Drug Relationship Type Chart

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### Patents by Drug Relationship Type Table

| Drug Relationship | Total |
|---|---|
| New use | 1 |
| Formulation | 1 |
| General interest | 1 |
| Component of Combination | 1 |

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# G-100, Immune

## G-100, Immune SNAPSHOT

| | |
|---|---|
| **Drug Name** | G-100, Immune |
| **Key Synonyms** | |
| **Originator Company** | Immune Design Corp |
| **Active Companies** | Immune Design Corp |
| **Inactive Companies** | |
| **Highest Status** | Phase 1 Clinical |
| **Active Indications** | Cancer |
| **Target-based Actions** | TLR-4 agonist |
| **Other Actions** | Therapeutic vaccine;Anticancer |
| **Technologies** | Intratumoral formulation;Biological therapeutic |
| **Last Change Date** | 01-Apr-2015 |

## G-100, Immune DEVELOPMENT PROFILE

### SUMMARY

Immune Design is developing a vaccine, G-100 (G-MCC1; ID-G100), that includes glucopyranosyl lipid A, a toll-like receptor (TLR)-4 agonist, developed using company's GLAAS platform, for the potential intratumoral injection treatment of cancer including Merkel cell carcinoma (MCC), non-Hodgkin lymphoma and soft tissue sarcoma ,. In January 2014, a phase I study was initiated, and at that time, the study was expected to complete in January 2017. In February 2015, a phase I study for metastatic soft tissue sarcoma was initiated. In November 2014, another phase I trial was planned to be initiated in the second quarter of 2015.

## G-100, Immune DEVELOPMENT STATUS

### CURRENT DEVELOPMENT STATUS

| Company | Indication | Country | Development Status | Date |
|---|---|---|---|---|
| Immune Design Corp | Cancer | US | Phase 1 Clinical | 14-Jan-2014 |

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## G-100, Immune DRUG NAMES

| Names | Type |
|---|---|
| TLR-4 agonist (GLAAS, merkel cell carcinoma), Immune Design | |
| G-100, Immune | Research Code |
| ID-G100 | Research Code |
| G-MCC1 | Research Code |

## G-100, Immune CLINICAL TRIALS

### Trials by Phase and Condition Studied

| Phase 4 Clinical | | Phase 3 Clinical | | Phase 2 Clinical | | Phase 1 Clinical | | Phase Unspecified | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| On-going | All | On-going | All | On-going | All | On-going | All | On-going | All | On-going | All |
| Merkel cell carcinoma | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| Soft tissue sarcoma | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |

### Total Trials by Phase and Status

| Phase 4 Clinical | | Phase 3 Clinical | | Phase 2 Clinical | | Phase 1 Clinical | | Phase Unspecified | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| On-going | All | On-going | All | On-going | All | On-going | All | On-going | All | On-going | All |
| **Total by Phase and Status** | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 2 |

**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

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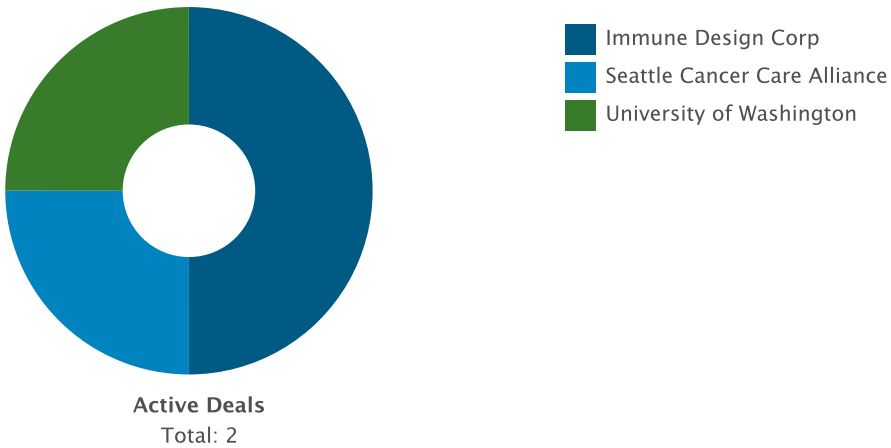
## G-100, Immune DEALS AND PATENTS

### DEALS

### Deals by Parent Company Chart




### Deals by Parent Company Table

| Company Name | Principal | | Partner | | Total |
|---|---|---|---|---|---|
| | Active | Inactive | Active | Inactive | |
| Immune Design Corp | 0 | 0 | 2 | 0 | 2 |
| University of Washington | 1 | 0 | 0 | 0 | 1 |
| Seattle Cancer Care Alliance | 1 | 0 | 0 | 0 | 1 |

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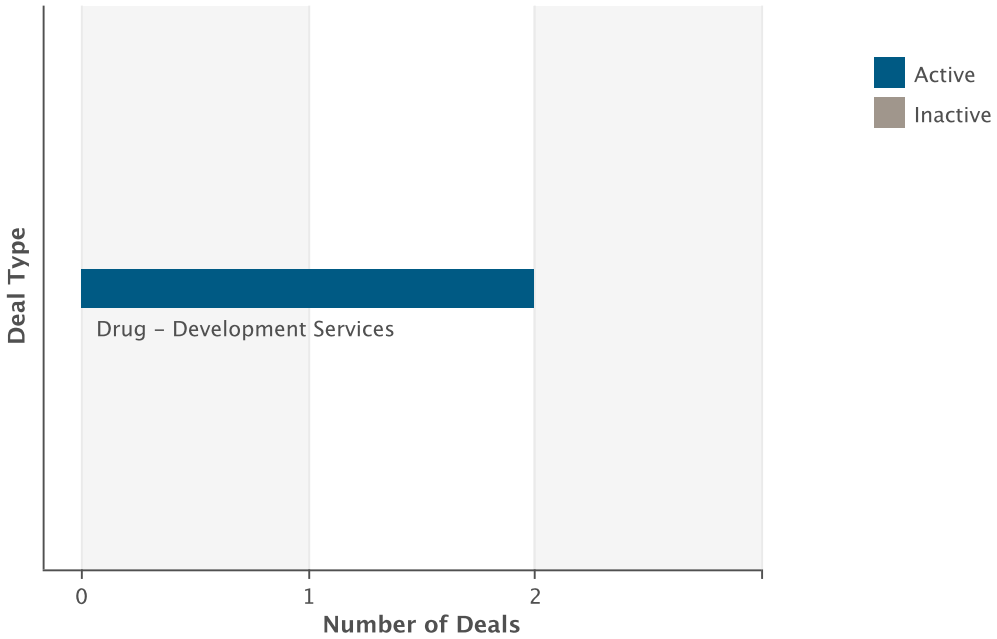
## Deals by Type Chart




## Deals by Type Table

| Deal Type | Active | Inactive | Total |
|---|---|---|---|
| Drug - Development Services | 2 | 0 | 2 |

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# CMB-305

## CMB-305 SNAPSHOT

| | |
|---|---|
| **Drug Name** | CMB-305 |
| **Key Synonyms** | |
| **Originator Company** | Immune Design Corp |
| **Active Companies** | Immune Design Corp |
| **Inactive Companies** | |
| **Highest Status** | Phase 1 Clinical |
| **Active Indications** | Solid tumor |
| **Target-based Actions** | Cancer testis antigen NY-ESO-1 modulator;T-cell surface glycoprotein CD8 stimulator;TLR-4 agonist |
| **Other Actions** | Therapeutic vaccine;Retrovirus based gene therapy;Anticancer |
| **Technologies** | Biological therapeutic;Parenteral formulation unspecified;Virus recombinant;Drug combination |
| **Last Change Date** | 01-Apr-2015 |

## CMB-305 DEVELOPMENT PROFILE

## SUMMARY

Immune Design is developing CMB-305 (ID-CMB305), a vaccine consisting of LV-305, a vaccine based on integration-defective dendritic cell-targeted lentiviral vector which acts by producing CD8 T cell responses that expresses three undisclosed tumor antigens, and G-305, a therapeutic vaccine comprising multiple melanoma antigens and glucopyranosyl lipid A adjuvant (GLA) which stimulates toll-like receptor 4, and targets NY-ESO-1 antigen, using the company's two synergistic discovery platforms, ZVex and GLAAS, for the potential treatment of solid tumors,. In March 2015, a phase Ib study was initiated for metastatic cancer. At that time, the study was expected to complete in August 2017 ; later that month, the first patient was dosed.

## CMB-305 DEVELOPMENT STATUS

### CURRENT DEVELOPMENT STATUS

| Company | Indication | Country | Development Status | Date |
|---|---|---|---|---|
| Immune Design Corp | Solid tumor | US | Phase 1 Clinical | 26-Mar-2015 |

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## CMB-305 DRUG NAMES

| Names | Type |
|---|---|
| ID-CMB305 | Research Code |
| CMB-305 | Research Code |
| LV-305 + G-305 | |

## CMB-305 CLINICAL TRIALS

### Trials by Phase and Condition Studied

| Phase 4 Clinical | | Phase 3 Clinical | | Phase 2 Clinical | | Phase 1 Clinical | | Phase Unspecified | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| On-going | All | On-going | All | On-going | All | On-going | All | On-going | All | On-going | All |
| Myxosarcoma | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| Metastasis | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| Metastatic ovary cancer | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| Metastatic non small cell lung cancer | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| Stage IV melanoma | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| Sarcoma | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |

### Total Trials by Phase and Status

| Phase 4 Clinical | | Phase 3 Clinical | | Phase 2 Clinical | | Phase 1 Clinical | | Phase Unspecified | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| On-going | All | On-going | All | On-going | All | On-going | All | On-going | All | On-going | All |
| **Total by Phase and Status** | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |

**Phase Definitions**

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**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

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# G-305

## G-305 SNAPSHOT

| | |
|---|---|
| **Drug Name** | G-305 |
| **Key Synonyms** | |
| **Originator Company** | Immune Design Corp |
| **Active Companies** | Immune Design Corp |
| **Inactive Companies** | |
| **Highest Status** | Phase 1 Clinical |
| **Active Indications** | Cancer |
| **Target-based Actions** | TLR-4 agonist |
| **Other Actions** | Therapeutic vaccine;Anticancer |
| **Technologies** | Biological therapeutic;Intramuscular formulation |
| **Last Change Date** | 01-Apr-2015 |

## G-305 DEVELOPMENT PROFILE

## SUMMARY

Immune Design is developing G-305 (ID-G305; IDC-G305), a therapeutic vaccine comprising multiple melanoma antigens and glucopyranosyl lipid A adjuvant (GLA), a small molecule toll-like receptor 4 agonist, for the potential treatment of cancer including melanoma,. In November 2013, a phase I trial was initiated in the US ; in November 2014, data were expected to be available by the end of the first quarter of 2015.

The company is also investigating G-305, in combination with LV-305, for solid tumors.

## G-305 DEVELOPMENT STATUS

### CURRENT DEVELOPMENT STATUS

| Company | Indication | Country | Development Status | Date |
|---|---|---|---|---|
| Immune Design Corp | Cancer | US | Phase 1 Clinical | 30-Nov-2013 |

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## G-305 DRUG NAMES

| Names | Type |
|---|---|
| G-305 | Research Code |
| IDC-G305 | Research Code |
| ID-G305 | Research Code |
| GLA-SE + melanoma antigens (cancer), Immune Design | |
| therapeutic vaccine (GLA adjuvanted, cancer), Immune Design | |

## G-305 CLINICAL TRIALS

### Trials by Phase and Condition Studied

| Phase 4 Clinical | | Phase 3 Clinical | | Phase 2 Clinical | | Phase 1 Clinical | | Phase Unspecified | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| On-going | All | On-going | All | On-going | All | On-going | All | On-going | All | On-going | All |
| Metastasis | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| Sarcoma | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| Ovary tumor | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| Breast tumor | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| Melanoma | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| Renal cell carcinoma | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| Non-small-cell lung cancer | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |

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## Total Trials by Phase and Status

| Phase 4 Clinical | | Phase 3 Clinical | | Phase 2 Clinical | | Phase 1 Clinical | | Phase Unspecified | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| On-going | All | On-going | All | On-going | All | On-going | All | On-going | All | On-going | All |
| **Total by Phase and Status** | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 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

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# IDC-G103

## IDC-G103 SNAPSHOT

| | |
|---|---|
| **Drug Name** | IDC-G103 |
| **Key Synonyms** | |
| **Originator Company** | Immune Design Corp |
| **Active Companies** | Immune Design Corp |
| **Inactive Companies** | |
| **Highest Status** | Discovery |
| **Active Indications** | HSV-2 infection |
| **Target-based Actions** | TLR-4 agonist |
| **Other Actions** | Therapeutic vaccine;Antiviral |
| **Technologies** | Biological therapeutic;Parenteral formulation unspecified |
| **Last Change Date** | 22-Apr-2014 |

## IDC-G103 DEVELOPMENT PROFILE

## SUMMARY

Immune Design Corp is investigating IDC-G103, a vaccine comprised of three HSV-2 antigens and glucopyranosyl lipid A (GLA) adjuvant which is a human toll-like receptor-4 agonist, for the potential treatment of herpes simplex virus type 2 (HSV-2) infection. In May 2012, preclinical development was planned ; in November 2012, the vaccine was listed as being at the IND stage ; in April 2014, this was still the case.

## IDC-G103 DEVELOPMENT STATUS

### CURRENT DEVELOPMENT STATUS

| Company | Indication | Country | Development Status | Date |
|---|---|---|---|---|
| Immune Design Corp | HSV-2 infection | US | Discovery | 31-Dec-2009 |

## IDC-G103 DRUG NAMES

| Names | Type |
|---|---|
| herpes simplex 2 virus vaccine (GLA adjuvanted), Immune Design Corp | |
| IDC-G103 | Research Code |

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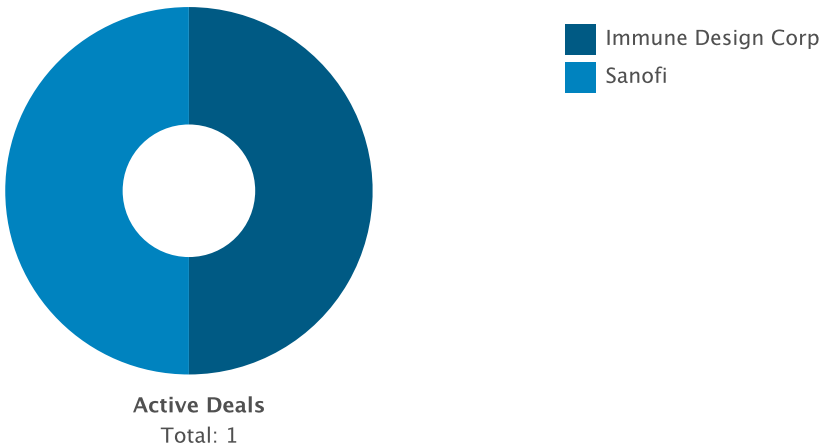
## DEALS

### Deals by Parent Company Chart




### Deals by Parent Company Table

| Company Name | Principal | | Partner | | Total |
|---|---|---|---|---|---|
| | Active | Inactive | Active | Inactive | |
| Sanofi | 0 | 0 | 1 | 0 | 1 |
| Immune Design Corp | 1 | 0 | 0 | 0 | 1 |

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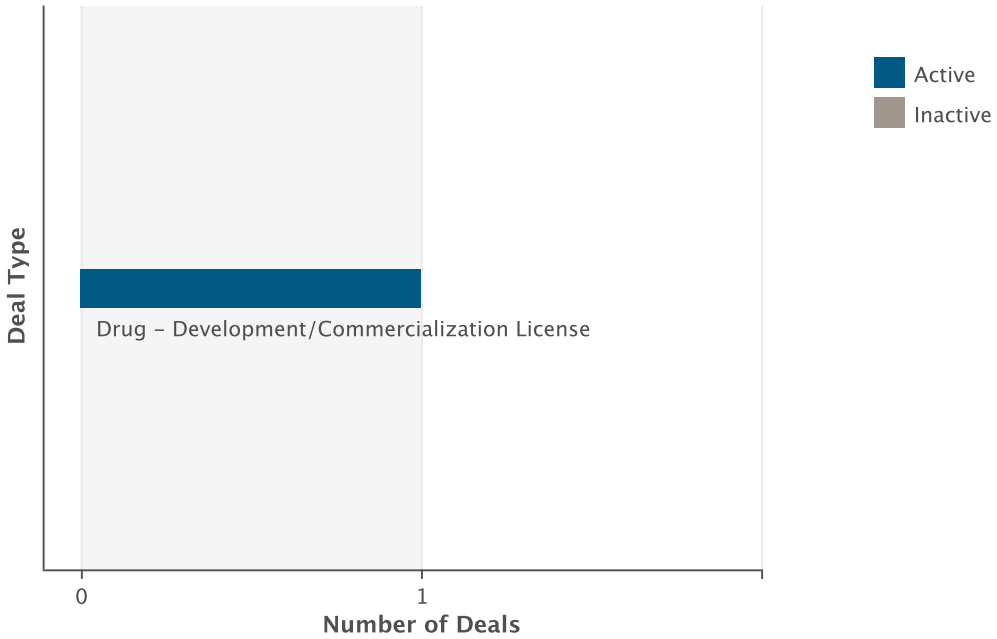
## Deals by Type Chart




## Deals by Type Table

| Deal Type | Active | Inactive | Total |
|---|---|---|---|
| Drug - Development/Commercialization License | 1 | 0 | 1 |

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# RBD-S SARS vaccine (SARS), Sabin Vaccine Institute/Baylor College of Medicine/Immune Design Corporation/Walter Reed Army Institute of Research

RBD-S SARS vaccine (SARS), Sabin Vaccine Institute/Baylor College of Medicine/Immune Design Corporation/Walter Reed Army Institute of Research

## RBD-S SARS vaccine (SARS), Sabin Vaccine Institute/Baylor College of Medicine/Immune Design Corporation/Walter Reed Army Institute of Research SNAPSHOT

| | |
|---|---|
| **Drug Name** | RBD-S SARS vaccine (SARS), Sabin Vaccine Institute/Baylor College of Medicine/Immune Design Corporation/Walter Reed Army Institute of Research |
| **Key Synonyms** | |
| **Originator Company** | Baylor College of Medicine |
| **Active Companies** | Immune Design Corp;Sabin Vaccine Institute;Baylor College of Medicine;Walter Reed Army Institute of Research |
| **Inactive Companies** | |
| **Highest Status** | Discovery |
| **Active Indications** | SARS coronavirus infection |
| **Target-based Actions** | |
| **Other Actions** | Prophylactic vaccine;Protein subunit vaccine |
| **Technologies** | Biological therapeutic;Parenteral formulation unspecified;Protein recombinant |
| **Last Change Date** | 15-Nov-2014 |

## RBD-S SARS vaccine (SARS), Sabin Vaccine Institute/Baylor College of Medicine/Immune Design Corporation/Walter Reed Army Institute of Research DEVELOPMENT PROFILE

### SUMMARY

Baylor College of Medicine, in collaboration with Sabin Vaccine Institute, Immune Design Corporation and Walter Reed Army Institute of Research, is investigating RBD-S, a vaccine comprised of a recombinant receptor-binding domain (RBD) of the SARS-CoV spike (S) protein, that acts by inducing neutralizing antibodies without causing Th2-type immunopathology, for the potential prevention of severe acute respiratory syndrome (SARS),. In November 2014, the vaccine was in early development phase and at that time, clinical development was expected to begin in 2017.

## RBD-S SARS vaccine (SARS), Sabin Vaccine Institute/Baylor College of Medicine/Immune Design Corporation/Walter Reed Army Institute of Research DEVELOPMENT STATUS

### CURRENT DEVELOPMENT STATUS

| Company | Indication | Country | Development Status | Date |
|---|---|---|---|---|
| Baylor College of Medicine | SARS coronavirus infection | US | Discovery | 22-May-2012 |
| Immune Design Corp | SARS coronavirus infection | US | Discovery | 31-Dec-2012 |
| Sabin Vaccine Institute | SARS coronavirus infection | US | Discovery | 22-May-2012 |
| Walter Reed Army Institute of Research | SARS coronavirus infection | US | Discovery | 31-Dec-2012 |

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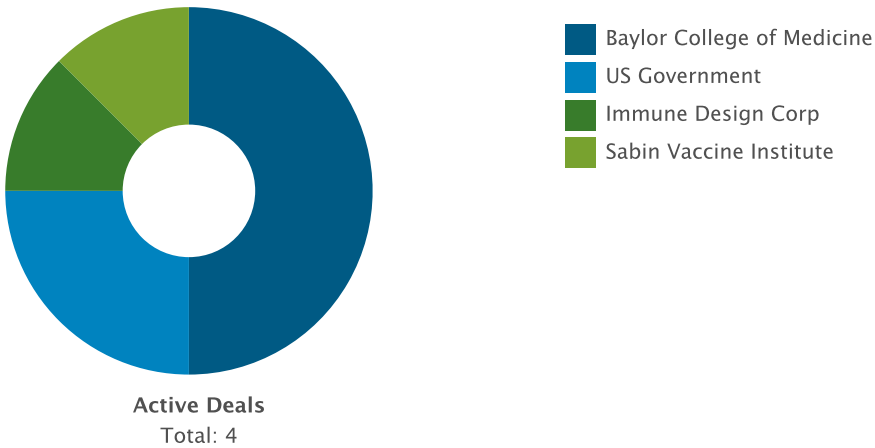
## RBD-S SARS vaccine (SARS), Sabin Vaccine Institute/Baylor College of Medicine/Immune Design Corporation/Walter Reed Army Institute of Research DRUG NAMES

| Names | Type |
|---|---|
| RBD-S SARS vaccine (SARS), Sabin Vaccine Institute/Baylor College of Medicine | |
| RBD-S SARS vaccine (SARS), Sabin Vaccine Institute/Baylor College of Medicine/Immune Design Corporation/Walter Reed Army Institute of Research | |

## RBD-S SARS vaccine (SARS), Sabin Vaccine Institute/Baylor College of Medicine/Immune Design Corporation/Walter Reed Army Institute of Research DEALS AND PATENTS

### DEALS

### Deals by Parent Company Chart




Active Deals
Total: 4

### Deals by Parent Company Table

| Company Name | Principal | | Partner | | Total |
|---|---|---|---|---|---|
| | Active | Inactive | Active | Inactive | |
| Baylor College of Medicine | 2 | 0 | 2 | 0 | 4 |
| US Government | 1 | 0 | 1 | 0 | 2 |
| Sabin Vaccine Institute | 1 | 0 | 0 | 0 | 1 |
| Immune Design Corp | 0 | 0 | 1 | 0 | 1 |

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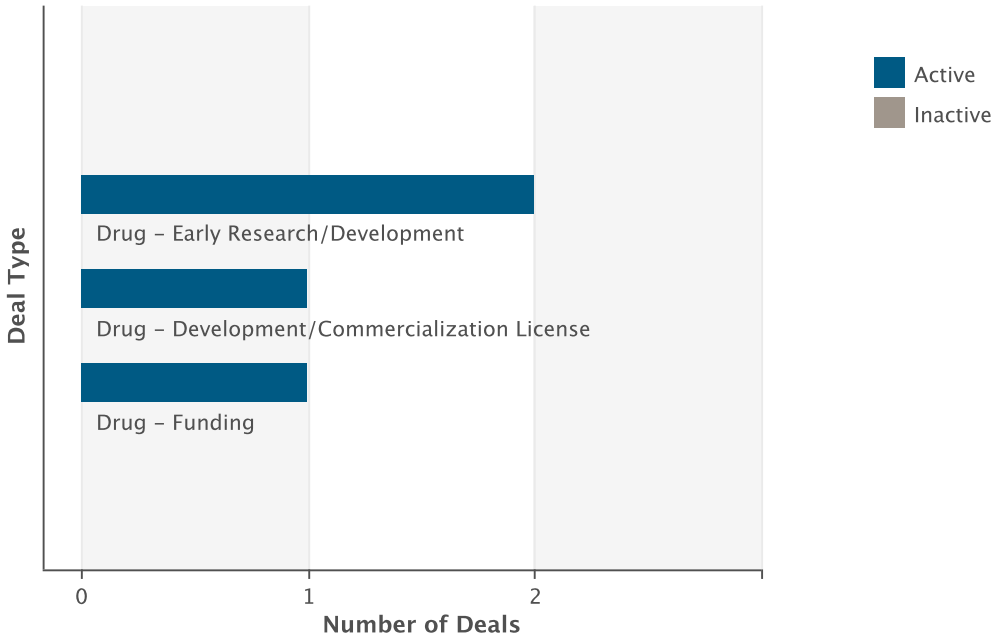
## Deals by Type Chart




## Deals by Type Table

| Deal Type | Active | Inactive | Total |
|---|---|---|---|
| Drug - Early Research/Development | 2 | 0 | 2 |
| Drug - Funding | 1 | 0 | 1 |
| Drug - Development/Commercialization License | 1 | 0 | 1 |

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# checkpoint inhibitors (LV-305 +/-GLA, cancer), Immune Design

## checkpoint inhibitors (LV-305 +/-GLA, cancer), Immune Design SNAPSHOT

| | |
|---|---|
| **Drug Name** | checkpoint inhibitors (LV-305 +/-GLA, cancer), Immune Design |
| **Key Synonyms** | |
| **Originator Company** | Immune Design Corp |
| **Active Companies** | Immune Design Corp |
| **Inactive Companies** | |
| **Highest Status** | Discovery |
| **Active Indications** | Cancer |
| **Target-based Actions** | TLR-4 agonist |
| **Other Actions** | Anticancer;Retrovirus based gene therapy;Therapeutic vaccine;Immunostimulant |
| **Technologies** | Biological therapeutic;Parenteral formulation unspecified;Virus recombinant |
| **Last Change Date** | 05-Feb-2015 |

## checkpoint inhibitors (LV-305 +/-GLA, cancer), Immune Design DEVELOPMENT PROFILE

### SUMMARY

Immune Design is investigating check-point inhibitors as therapeutic vaccines combining ID-LV, a lentiviral vector engineered to deliver antigen-encoding nucleic acids directly to dendritic cells, and glucopyranosyl lipid A (GLA) adjuvant, for the potential treatment of cancer. In November 2012, the vaccine was listed as being in IND stage. In September 2013, this was still the case.

## checkpoint inhibitors (LV-305 +/-GLA, cancer), Immune Design DEVELOPMENT STATUS

### CURRENT DEVELOPMENT STATUS

| Company | Indication | Country | Development Status | Date |
|---|---|---|---|---|
| Immune Design Corp | Cancer | US | Discovery | 30-Nov-2012 |

## checkpoint inhibitors (LV-305 +/-GLA, cancer), Immune Design DRUG NAMES

| Names | Type |
|---|---|
| therapeutic vaccines (ID-LV + GLA adjuvant, cancer), Immune Design | |
| checkpoint inhibitors (LV-305 +/-GLA, cancer), Immune Design | |

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# therapeutic vaccine (GLA adjuvanted, allergy), Sanofi/Immune Design

## therapeutic vaccine (GLA adjuvanted, allergy), Sanofi/Immune Design SNAPSHOT

| | |
|---|---|
| **Drug Name** | therapeutic vaccine (GLA adjuvanted, allergy), Sanofi/Immune Design |
| **Key Synonyms** | |
| **Originator Company** | Immune Design Corp |
| **Active Companies** | Immune Design Corp;Sanofi |
| **Inactive Companies** | |
| **Highest Status** | Discovery |
| **Active Indications** | Food hypersensitivity |
| **Target-based Actions** | TLR-4 agonist |
| **Other Actions** | Therapeutic vaccine;Immunomodulator |
| **Technologies** | Biological therapeutic;Systemic formulation unspecified |
| **Last Change Date** | 29-Aug-2014 |

## therapeutic vaccine (GLA adjuvanted, allergy), Sanofi/Immune Design DEVELOPMENT PROFILE

### SUMMARY

Immune Design, in collaboration with Sanofi, is investigating a therapeutic vaccine adjuvanted with glucopyranosyl lipid A (GLA), a small molecule toll-like receptor 4 (TLR-4) agonist, for the potential treatment of allergy, including food allergy ,.

## therapeutic vaccine (GLA adjuvanted, allergy), Sanofi/Immune Design DEVELOPMENT STATUS

### CURRENT DEVELOPMENT STATUS

| Company | Indication | Country | Development Status | Date |
|---|---|---|---|---|
| Immune Design Corp | Food hypersensitivity | US | Discovery | 07-Aug-2014 |
| Sanofi | Food hypersensitivity | France | Discovery | 07-Aug-2014 |

## therapeutic vaccine (GLA adjuvanted, allergy), Sanofi/Immune Design DRUG NAMES

| Names | Type |
|---|---|
| therapeutic vaccine (GLA adjuvanted, allergy), Sanofi/Immune Design | |

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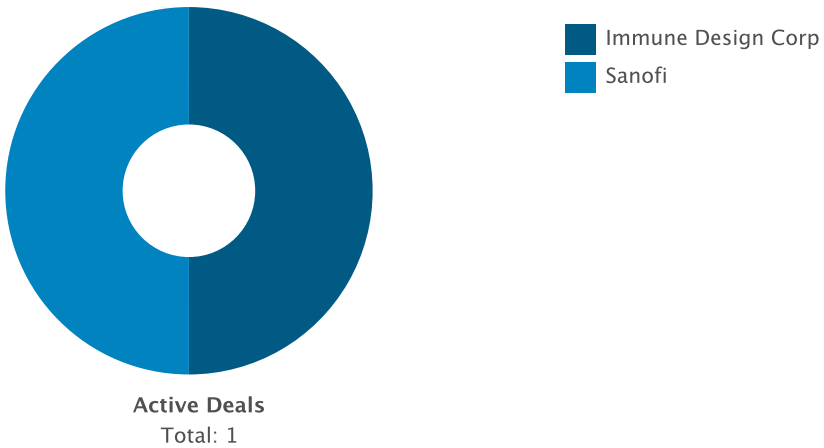
## DEALS

### Deals by Parent Company Chart




### Deals by Parent Company Table

| Company Name | Principal | | Partner | | Total |
|---|---|---|---|---|---|
| | Active | Inactive | Active | Inactive | |
| Immune Design Corp | 1 | 0 | 0 | 0 | 1 |
| Sanofi | 0 | 0 | 1 | 0 | 1 |

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## Deals by Type Chart


## Deals by Type Table

| Deal Type | Active | Inactive | Total |
|---|---|---|---|
| Drug - Early Research/Development | 1 | 0 | 1 |

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