

# **Radius Health Inc**

# **COMPANY AND PIPELINE OVERVIEW REPORT**

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

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# **THOMSON REUTERS**

3 Times Square New York, New York 10036 United States

Tel: +1 646 223 4000

thomsonreuters.com



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i.e. where the development status for the drug(s) is one of the following: No Development Reported, Discontinued, or Withdrawn.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

#### **COMPANY OVERVIEW**

Company Name	Radius Health Inc
Parent Company Name	Radius Health Inc
Website	http://www.radiuspharm.com/
Country	US
Number of Drugs in Active Development	4
Number of Inactive Drugs	2
Number of Patents as Owner	13
Number of Patents as Third Party	1
Number of Deals	7
Key Indications	Postmenopausal osteoporosis,Osteoporosis,Sarcopenia,Hot flashes,Multiple sclerosis,Non-insulin dependent diabetes,Anemia,Breast tumor,Depression,Irritable bowel syndrome,Prostate tumor
Key Target-based Actions	Androgen receptor modulator,Parathyroid hormone receptor modulator,Parathyroid hormone receptor agonist,Estrogen receptor antagonist,Estrogen receptor beta modulator,Parathyroid hormone related protein modulator
Key Technologies	Peptide,Patch formulation,Transdermal formulation,Absorption enhancer transdermal,Biological therapeutic,Oral formulation,Small molecule therapeutic,Drug screening,Capsule formulation,Drug coating,Drug combination,Injectable formulation,Tablet formulation

#### **COMPANY PROFILE**

#### **SUMMARY**

Radius Health Inc (formerly Nuvios) is a US-based, private biotechnology company that aims to discover and develop new agents for treating and preventing metabolic bone diseases, symptoms of menopause and reproductive disorders associated with inflammation.

#### LICENSING AGREEMENTS

In May 2004, Nuvios entered into a collaboration with Evotec OAI for the screening of small-molecule compounds for the potential treatment and prevention of osteoporosis. Evotec would apply its ultra high-throughput as well as other technologies for the identification of active compounds to Nuvios's assays for profiling the effects of compounds on osteoclast and osteoblast growth and differentiation. The objective of the partnership was to discover novel activators of bone anabolic activity.

#### **FINANCIAL**

In April 2013, the company raised \$43 million from an equity financing.

In February 2012, Radius filed a registration statement with the securities and exchange commission relating to a proposed public offering of its common stock. At that time, the number of shares to be offered and the price range for the proposed offering were not yet determined.

In May 2011, the company planned to raise \$91 million from a third financing round, including a total of \$66 million in equity financing and a commitment from GE Capital, Healthcare Financial Services and Oxford Finance for a \$25 million term loan facility. At that time, an initial close gave the company gross proceeds of \$22 million in equity and \$6.25 million in debt, and \$1.4 million of preferred stock was issued to Ipsen in lieu of a cash milestone payment. In November 2011, Radius closed a second tranche of the financing round. The \$27.65 million second tranche included \$21.4 million in equity financing and \$6.25 million in debt; gross proceeds received at that time totalled \$57.3 million. In December 2011, Radius closed a third and final equity tranche of the financing round. The third tranche included \$21.4 million in equity financing; gross proceeds received at that time totalled \$78.7 million. The company had an additional \$12.5 million of debt available to be drawn until May 2012.



In November 2008, the company raised \$15 million from an institutional financing round.

In September 2007, Radius reported that the MPM Bio IV NVS Strategic Fund LP had purchased \$10 million of series C preferred Radius stock.

In April 2007, the company raised \$57.5 million in private financing.

#### **EARLY R&D/TECHNOLOGY UPDATES/IP NEWS**

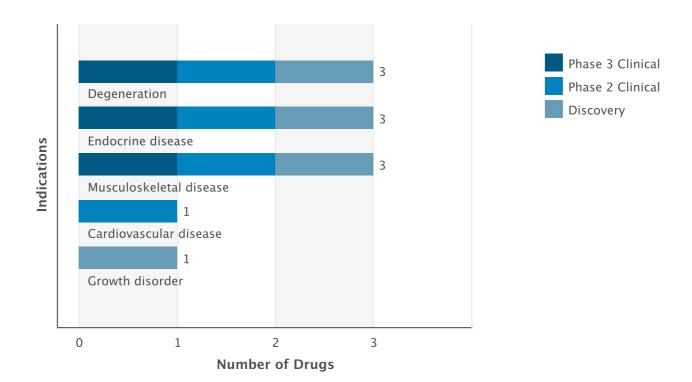
Nuvios holds patents covering novel small-molecules known as activators of non-genotropic estrogen-like signaling (ANGELS), a potential new class of anabolic osteoporosis therapy.

#### PRODUCT PORTFOLIO SUMMARY

#### **DRUGS**

# **Drugs by Indication**

Active Drugs by Indication Chart



# Drugs by Indication Table

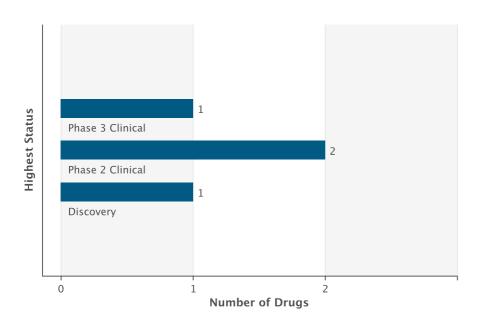
Indication	Active	Inactive	Total
Endocrine disease	3	2	5
Musculoskeletal disease	3	2	5
Degeneration	3	2	5
Gynecology and obstetrics	0	2	2
Growth disorder	1	1	2



Inflammatory disease	0	1	1
Cardiovascular disease	1	0	1
Genitourinary disease	0	1	1
Metabolic disorder	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
Discovery	1
Discontinued	1
No Development Reported	1

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#### **DEALS**

Deal Type	Prin	cipal	Pai	tner	Total
	Active	Inactive	Active	Inactive	
Drug - Screening/Evaluation	0	0	1	0	1
Drug - Development/Commercialization License	1	1	2	1	4
Drug - Development Services	0	0	1	0	1
Technology - Delivery/Formulation	0	0	1	0	1

# **CLINICAL TRIALS**

# Trials by Condition Studied

Condition Studied	Ongoing	All
Endocrine disease	2	4
Degeneration	2	4
Musculoskeletal disease	2	4
Cardiovascular disease	0	1

# Trials by Phase

Phase	Ongoing	All
Phase 3	1	2
Phase 2	1	3
Phase 1	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 1, Phase 1, Phase 1/2 (where enrolment count is under 100 or not specified), Phase 0

# **PATENTS** \*

Indication	As Owner	As Third Party	Total
Cardiovascular disease	7	0	7
Endocrine disease	12	1	13
Gastrointestinal disease	6	0	6



Genitourinary disease	5	0	5
Growth disorder	2	0	2
Hematological disease	4	1	5
Degeneration	9	1	10
Andrology	3	0	3
Immune disorder	5	0	5
Psychiatric disorder	4	0	4
Musculoskeletal disease	11	1	12
Neoplasm	5	0	5
Metabolic disorder	6	1	7
Neurological disease	6	0	6
Nutritional disorder	3	0	3
Prophylaxis	1	0	1
Infectious disease	1	0	1
Injury	4	1	5
Inflammatory disease	3	1	4
Gynecology and obstetrics	4	0	4
Surgical procedure	1	0	1

<sup>\*</sup> 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

# **BA-058**

Drug Name	BA-058
Key Synonyms	
Originator Company	Ipsen
Active Companies	Radius Health Inc, Teijin Ltd
Inactive Companies	Ipsen
Highest Status	Phase 3 Clinical
Active Indications	Postmenopausal osteoporosis
Target-based Actions	Parathyroid hormone receptor modulator
Other Actions	Bone modulator
Technologies	Subcutaneous formulation, Biological therapeutic, Peptide
Last Change Date	13-Mar-2013

# **RAD-1901**

Drug Name	RAD-1901
Key Synonyms	
Originator Company	Eisai Co Ltd
Active Companies	Radius Health Inc
Inactive Companies	Eisai Co Ltd
Highest Status	Phase 2 Clinical
Active Indications	Hot flashes
Target-based Actions	Estrogen receptor modulator
Other Actions	Anticancer, Vasoconstrictor
Technologies	Oral formulation, Small molecule therapeutic
Last Change Date	29-Sep-2012

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# BA-058 (transdermal microneedle patch, osteoporosis), Radius Health

Drug Name	BA-058 (transdermal microneedle patch, osteoporosis), Radius Health
Key Synonyms	
Originator Company	Radius Health Inc
Active Companies	Radius Health Inc
Inactive Companies	
Highest Status	Phase 2 Clinical
Active Indications	Postmenopausal osteoporosis
Target-based Actions	Parathyroid hormone receptor modulator
Other Actions	Bone modulator
Technologies	Transdermal formulation, Patch formulation, Absorption enhancer transdermal, Biological therapeutic, Peptide
Last Change Date	04-Jan-2013

# **RAD-140**

Drug Name	RAD-140
Key Synonyms	
Originator Company	Radius Health Inc
Active Companies	Radius Health Inc
Inactive Companies	
Highest Status	Discovery
Active Indications	Osteoporosis, Sarcopenia
Target-based Actions	Androgen receptor modulator
Other Actions	Musculoskeletal system modulator, Bone resorption inhibitor, Non-steroid hormone receptor modulator
Technologies	Oral formulation, Small molecule therapeutic
Last Change Date	28-Sep-2012



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