6 State of New Product Development (as of May 8, 2012)

1. Pipeline in Japan

(1) New Molecular Entities

Development code (Generic name)	Category (Indications)	Stage	Origin	Notes
MP-513 (Teneligliptin)	DPP4 inhibitor (Type 2 Diabetes mellitus)	NDA filed (Aug. 2011)	In-house	
	(Type 2 Diabetes mellitus, Additional combination)	Phase3		
BK-4SP	Vaccine (Prophylaxis of pertussis, diphtheria, tetanus, and poliomyelitis)	NDA filed (Dec. 2011)	The Research Foundation for Microbial Diseases of Osaka University	Co-development -The Research Foundation for Microbial Diseases of Osaka University
TA-7284 (Canagliflozin)	SGLT2 inhibitor (Type 2 Diabetes mellitus)	Phase 3	In-house	
MP-214 (Cariprazine)	D3/D2 receptor partial agonist (Schizophrenia)	Phase 2	Hungary: Gedeon-Richter	
MP-435	C5a receptor antagonist (Rheumatoid arthritis)	Phase 2	In-house	
MT-4666	α7nAChR agonist (Alzheimer's disease)	Phase 1	US: EnVivo Pharmaceuticals	
MT-3995	Selective mineralocorticoid receptor antagonist (Hypertention)	Phase 1	In-house	

(2) Additional Indications

Product name (Generic name)	Category (Indications)	Stage	Origin	Notes
Venoglobulin IH (Polyethylene glycol treated human normal immunogloblin)	Human immunoglobulin G (IgG2 deficiency)	sNDA filed (Dec. 1997)	In-house	
	(Systemic scleroderma)	Phase 3		
Radicut (Edaravone)	Free radical scavenger (Amyotrophic lateral sclerosis*)	Phase 3	In-house	
Maintate (Bisoprolol)	Selective β 1 blocker (Chronic atrial fibrillation)	Phase 3	In-house	
Talion (Bepotastine)	Selective histamine H1 receptor antagonist, anti-allergic agent (Pediatric allergic rhinitis)	Phase 3	Japan: Ube Industries	
Telavic (Telaprevir)	NS3-4A protease inhibitor (Chronic hepatitis C, (genotype2))	Phase 3	US:Vertex	
Remicade (Infliximab[recombinant])	Anti- human TNFα monoclonal antibody (Subtype Behcet's disease)	Phase 3	US:Janssen Biotech	
	(Pediatric Crohn's disease)	Phase 3		
Cholebine (Colestimide(JAN))	Bile acid signal regulation (Type 2 Diabetes mellitus)	Phase 2	In-house	
	Non-absorbed phosphate binder (Hyperphosphatemia)	Phase 1		

*: Orphan drug designated

2. Pipelines Overseas

(1) New Molecular Entities

Development code (Generic name)	Category (Indications)	Region	Stage	Origin
MCI-196 (Colestilan(INN))	Non-absorbed phosphate binder (Hyperphosphatemia)	Europe	MAA filed (Aug. 2011)	In-house
MP-146	Uremic toxin adsorbent (Chronic kidney disease)	US, Europe	Phase 3	Japan:Kureha
MT-2832 (Lunacalcipol)	Vitamin D analog (Secondary hyperparathyroidism)	US, Canada	Phase 2	Canada: Cytochroma
MP-513 (Teneligliptin)	DPP4 inhibitor (Type 2 Diabetes mellitus)	Europe	Phase 2	In-house
		US	Phase 1	
GB-1057 (Recombinant human serum albumin)	Recombinant human serum albumin (Stabilizing agent)	US	Phase 1	In-house
TA-8995	CETP inhibitor (Dyslipidemia)	Europe	Phase 1	In-house
MP-124	PARP inhibitor (Acute ischemic stroke)	US, Canada	Phase 1	In-house
MT-3995	Selective mineralocorticoid receptor antagonist (Hypertention)	Europe	Phase 1	In-house
MP-157	Angiotensin Type2 Receptor agonist (Hypertention)	Europe	Phase 1	In-house
MT-1303	Sphingosine-1-phosphate receptor functiona antagonist (Multiple sclerosis)	Europe	Phase 1	In-house
MT-7716	NOP receptor agonist (Alcohol-use disorder)	US	Phase 1	In-house

3. Licensing-out

Development code (Generic name)	Category (Indications)	Region	Stage	Licensee
TA-1790 (Avanafil)	PDE5 inhibitor (Erectile dysfunction)	Europe	MAA filed (Mar. 2012)	US: Vivus
TA-7284 (Canagliflozin)	SGLT2 inhibitor (Type2 Diabetes mellitus)	US, Europe	Phase 3	US: Janssen Pharmaceuticals*
	(Obesity)	US, Europe	Phase 2	
T-0047 (Firategrast)	Cell adhesion inhibitor [α4β7/α4β1 inhibitor] (Multiple sclerosis)	Europe	Phase 2	UK:GlaxoSmithKline
MKC-242	5-HT1A receptor agonist (Insomnia)	US	Phase 2	US:MediciNova
Y-39983	ROCK (rho-kinase) inhibitor (Glaucoma)	Japan	Phase 2	Japan: Senju Pharmaceutical
MT-210	5-HT2A/ Sigma 2 receptor antagonist (Schizophrenia)	Europe	Phase 2	France: Cyrenaic
sTU-199 (Tenatoprazole)	Proton pump inhibitor (Gastroesophageal reflux disease)	Europe	Phase1	France:Negma (Sidem)
TT-138	β3 receptor agonist (Pollakiuria, urinary incontinence)	US	Phase 1	US:MediciNova
TA-7906	PDE4 inhibitor (Atopic dermatitis)	Japan	Phase1	Japan: Maruho

*: A pharmaceutical company of Johnson & Johnson

4. Changes Since Previous Announcement on Jan. 31, 2012

(1) In-house Development

Development code/Product name (Generic name)	Category (Indications)	Region	As of Jan 31, 2012	As of May 8, 2012
MT-3995	Selective mineralocorticoid receptor antagonist (Hypertention)	Japan	None	Phase 1 (Mar. 2012)
Remicade (Infliximab[recombinant])	Anti-TNFα monoclonal antibody (Subtype Behcet's disease)	Japan	None	Phase 3 (Jan. 2012)
	(Pediatric Crohn's disease)	Japan	None	Phase 3 (Apr. 2012)
MCI-186 (Edaravone)	Free radical scavenger (Acute ischemic stroke)	Europe	Phase 2	Discontinued
MP-136	PPAR alpha agonist (Dyslipidemia)	Europe	Phase 1	Discontinued

(2) Licensing-out

Development code (Generic name)	Category (Indications)		As of Jan 31, 2012	As of May 8, 2012
TA-1790 (Avanafil)	PDE5 inhibitor (Erectile dysfunction)	Europe	None	Filed (Mar. 2012)
		US	NDA Filed	Approved (Apr. 2012)
MKC-231	Neurogenesis enhancer (Depression/anxiety)	US	Phase 2	Termination of license agreement

5. Additional Information for State of New Product Development (as of May 8, 2012)

(1) New Molecular Entities in Japan

Development code (Generic name)	Information
MP-513 (Teneligliptin)	MP-513 is developed for the treatment of type2 diabetes mellitus. It selectively inhibits dipeptidyl peptidase 4 (DPP4), thus accelerates the insulin secretion after meal intake without effect on the fasting insulin secretion. NDA was filed in August 2011. Additional combination trials are on going.
BK-4SP	Diphtheria toxoid-tetanus toxoid-bordetella pertussis antigen-inactivated poliovirus combined vaccine. Co-development with the Research Foundation for Microbial Diseases of Osaka University. NDA was filed in December 2011 by the Research Foundation for Microbial Diseases of Osaka University.
TA-7284 (Canagliflozin)	As a selective SGLT2 inhibitor, TA-7284 decreases blood glucose levels by inhibiting reabsportion of glucose in the kidney. Clinical stage is Phase 3 for type2 diabetes mellitus.
MP-214 (Cariprazine)	MP-214 is a dopamine D3/D2 receptor partial agonist, licensed from Gedeon-Richter (Hungary). Clinical stage is Phase 2 for schizophrenia.
MP-435	MP-435 is a C5a (complement factor) receptor antagonist which modulates the immune system. Clinical stage is Phase 2 for Rheumatoid arthritis.
MT-4666	MT-4666 is an α7 nACh receptor agonist, licensed from EnVivo pharmaceuticals(US). Clinical stage is Phase 1 for Alzheimer's disease.
MT-3995	MT-3995 is a selective mineralocorticoid receptor antagonist. Clinical stage is Phase 1 in Japan for hypertension.

(2) Additional Indications in Japan

Development code/Product name (Generic name)	Information
Venoglobulin IH (Polyethylene glycol treated human normal immunogloblin)	(IgG2 deficiency) sNDA has been filed. (Diffuse systemic scleroderma) Clinical research in Japan demonstrated IV-IG was effective in improvement of skin manifestation, a main factor of systemic scleroderma. Efficacy of IV-IG was also reported in overseas studies. Clinical stage is Phase 3.
Radicut (Edaravone)	(Amyotrophic lateral sclerosis [Orphan drug designated in June, 2005]) Radicut is Free radical scavenger. In 2001, it is launched tfor improvement neurological symptoms at the acute stage of cerebral infarction, interference with activities of daily living and functional disability. Clinical stage is Phase 3 for amyotrophic lateral sclerosis.
Maintate (Bisoprolol)	(Chronic atrial fibrillation) Maintate is selective β1 antagonist. It is launched as a treatment for hypertension, angina and premature ventricular beat in 1990. An additional indication for heart failure was approved in 2011. Clinical stage is Phase 3 for chronic atrial fibrillation, responding the request from the academic society.
Talion (Bepotastine)	(Pediatric allergic rhinitis) We launched this drug as an anti-allergic agent for adult in 2000. Clinical stage is Phase 3 for pediatric allergic rhinitis.
Telavic (Telaprevir)	(Chronic hepatitis C (genotype2)) It is launched as a treatment for chronic hepatitis C in 2011. Clinical stage is Phase 3 for chronic hepatitis C (genotype2).
Remicade (Infliximab[recombinant])	Remicade is an anti-TNFα monoclonal antibody. It is launched this drug as a treatment for Crohn's disease in 2002 , followed by as a treatment for rheumatoid arthritis, intractable uveoretinitis caused by Behcet's disease, psoriasis, ankylosing spondylitis, and ulcerative cloitis. (Subtype Behcet's disease) Clinical stage is Phase 3 for subtype Behcet's disease. (Pediatric Crohn's disease) Clinical stage is Phase 3 for Pediatric Crohn's disease.
Cholebine (Colestimide(JAN))	Cholebine is a bile acid eliminant. It is launched as a treatment for hypercholesterolemia i 1999. (Type 2 diabetes mellitus) Clinical stage is Phase 2 for Type 2 diabetes mellitus (Hyperphosphatemia) Clinical stage is Phase 1 for Hyperphosphatemia.

(3) New Molecular Entities Overseas

Development code/Product name (Generic name)	Information
MCI-196 (Colestilan(INN))	MCI-196 is anion-exchange resin, and has been developed for the treatment of hyperphosphatemia in patients on dialysis. MAA was filed in Europe in Aug. 2011. It has been marketed in Japan for the treatment of hypercholesterolemia, under the brand name of CHOLEBINE®.
MP-146	MP-146 is spherical carbon adsorbent, licensed from KUREHA (Japan) in November 2006. Clinical stage is Phase 3 for chronic kidney disease patients in Europe, North America and Latin America. It had been marketed by Daiichi Sankyo Co. Ltd. in Japan from 1991 under the brand name, KREMEZIN®. In April 2011, Mitsubishi Tanabe Pharma succeeded its marketing from Daiichi Sankyo.
MT-2832 (Lunacalcipol)	MT-2832 was licensed from Cytochroma (Canada) in July 2008. MT-2832 is a strong activator of the vitamin D signaling pathway and has a resistance characteristics to CYP24, intracellular enzyme responsible for catabolism of Vitamin D hormones. Clinical stage is Phase 2 for secondary hyperparathyroidism in patients with chronic kidney disease in Canada.
MP-513 (Teneligliptin)	MP-513 is developed for the treatment of type2 diabetes mellitus. It selectively inhibits dipeptidyl peptidase 4 (DPP4), thus accelerates the insulin secretion after meal intake without effect on the fasting insulin secretion. Clinical stages in the US and Europe are Phase1 and
GB-1057 (Recombinant human serum albumin)	GB-1057 is a recombinant human serum albumin. Clinical stage is Phase 1 as a stabilizing agent in the US.
TA-8995	TA-8995 is a CETP inhibitor that has HDL-C raising and LDL-C lowering effects. Clinical stage is Phase 1 in Europe.
MP-124	MP-124 is a PARP inhibitor that has neuroprotective effect. Clinical stage in the US and Canada are Phase 1 for acute ischemic stroke.
MT-3995	MT-3995 is a selective mineralocorticoid receptor antagonist. Clinical stage is Phase 1 in Europe for hypertension.
MP-157	MP-157 is a angiotensin type2 receptor agonist. Clinical stage is Phase 1 in Europe for hypertention.
MT-1303	MT-1303 is a sphingosine-1-phosphate receptor functional antagonist. Clinical stage is Phase1 in Europe for multiple sclerosis as a succesor of Imusera.
MT-7716	MT-7716 is a NOP receptor agonist. Clinical stage is Phase 1 in the US for Alcohol-use disorder (abuse and alcoholism).

(4) Licensing-out

Development code (Generic name)	Information
TA-1790 (Avanafil)	TA-1790 is created for the treatment of erectile dysfunction by Mitsubishi Tanabe Pharma, which is expected to have a quick onset and fewer side effects. MAA was filed by Vivus in the Europe in March 2012. Vivus obtained its approval in US in April 2012.
TA-7284 (Canagliflozin)	As a selective SGLT2 inhibitor, TA-7284 decreases blood glucose levels by inhibiting reabsorption of glucose in the kidney. Phase 3 clinical trials in type2 diabetes mellitus in Europe and the US are underway by Janssen Pharmaceuticals. Phase 2 clinical trials in obesity in Europe and the US are completed.
T-0047 (Firategrast)	T-0047 inhibits the cell adhesion and cell migration processes of white blood cells in inflammatory region. Phase 2 trial is conducted by GSK in Europe, etc.
MKC-242	MKC-242 is a serotonin 1A receptor agonist, used to treat psychiatric disorders such as anxiety and depression. This compound is expected to reveal rapid onset with low possibility of dependency. Medici Nova (US) is conducting Phase 2 clinical trial for insomnia.
Y-39983	Y-39983 is a ROCK (Rho-kinase) inhibitor, which relaxes vascular smooth muscle. Clinical stage is Phase 2 in Japan by Senju Pharmaceutical.
MT-210	MP-210 is a 5-HT2A/ Sigma 2 receptor antagonist. Clinical stage is Phase 2 in Europe by Cyrenaic (France).
sTU-199 (Tenatoprazole)	sTU-199 is an isomer of TU-199, developed in Japan, and licensed to Negma (France). Pharmacokinetic/pharmacodynamic results from Phase 1 clinical trials in Europe and the US demonstrated that sTU-199 controlled gastric acid secretion at nighttime in patients receiving this compound once-daily, with the long half-life. It is expected that this compound could reveal rapid improvement for non-erosive reflux disease. Sidem Pharma, a subsidiary of Negma, is conducting phase 1 trial for gastroesophageal reflux dsease in Europe.
TT-138	TT-138 is a β3 receptor agonist used to treat pollakiuria and urinary incontinence. Phase 1 study is conducted by Medici Nova in the US.
TA-7906	TA-7906 is a PDE4 inhibitor. Clinical stage is Phase1 for the treatment of atopic dermatitis in Japan by Maruho.

Reference

Major Ethical Drugs

Remicade (Infliximab)	Launch: May 2002	Category	Anti-TNFα monoclonal antibody

Remicade is an anti-TNFα antibody, which targets TNFα, an important inflammatory cytokine. It is very fast-acting and its efficacy is sustained for eight weeks with a single administration. It has indications for the treatment of rheumatoid arthritis, Crohn's disease, Behcet's disease with refractory uveoretinitis, psoriasis, ankylosing spondylitis, and ulcerative colitis. In addtion, in July 2009 and August 2011, changes in usage/dosage were approved for rheumatoid arthritis, and Crohn's disease, respectively.
Origin: Jannsen Biotech

Radicut (Edaravone)	Launch: Jun. 2001	Category	Free radical scavenger (Cerebral neuroprotectant)

Radicut is the world's first brain protecting agent (free radical scavemger) shown to improve neurological symptoms, interference with activities of daily living, and disability (at hospital discharge) in patients at acute stage of cerebral infarction. Specific indications include the treatment of various types of infarction (cerebral lacunar, atherothrombotic and cardiogenic infarction) It is initiated administration within 24 hours after onset, and is not administrated for more than 14 days. An additional formulation, Radicut bag for I.V. Infusion, was launched in May 2010.

Ceredist (Taltirelin)	Launch: Sep. 2000	Category	Agent for treatment of spinocerebellar degeneration

Thyrotropin releasing hormone (TRH) was known to be effective against ataxia caused by spinocerebellar degeneration, but it was previously administered only through injection. Ceredist, developed by Tanabe, is the world's first oral TRH derivative drug. An additional formulation, orally disintegrating tablets, was launched in October 2009.

Anplag (Sarpogrelate)	Launch: Oct. 1993	Category	5-HT2 blocker (Anti-platelet agent)

Anplag, an oral anti-platelet, is used to patients with arteriosclerosis obliterans (ASO) to improve ischemic symptoms like as ulcer, pain and coldness of limbs associated with chronic arterial occlusion. Anplag especially improves the bloodstream of collateral circulation and inhibits platelet aggregation, vascular contraction and growth of vascular smooth muscle cell by antagonistic action to serotonin receptor in platelets and vessels.

Talion (Bepotastine)	Launch: Oct. 2000	Category	Agent for treatment of allergic disorders

Talion has rapid onset of anti-histamine(H1) effects and has been demonstrated to be effective for allergic rhinitis, urticaria, and pruritus accompanying dermatitis. It has minimal incidence of sedation. An additional formulation, orally disintegrating tablets, was approved in March and launched in July 2007.
Origin: Ube Industries

Urso (Ursodeoxycholic Acid)	Launch: July 1962	Category	Agent for improving hepatic, biliary and digestive functions

Ursodeoxycholic acid (UDCA), principal ingredient of Urso, had been extracted from blackbear's gallbladder in the past and has been used in the treatment of various digestive diseases. It is one of the bile acids existing in human body. Urso has effects of hapatic protection and indications of improvement of liver function in chronic liver disease and hepatitis C, and dissolution of gallstones.

Maintate (Bisoprolol)	Launch: Nov. 1990	Category	Selective β1 antagonist (Treatment of hypertension, angina pectoris, and arrhythmias)

Maintate is a representative β-blocker used in more than 85 countries around the world. It exhibits high selectivity for β1 receptor and excellent phamacokinetics profiles. It has high efficacy and safety, and there is evidence for its cardioprotective action. An additional indication for chronic heart failure has been approved in May, 2011.
Origin: Merck Serono

Kremezin	Launch: Apr. 2011	Category	Agent for treatment of Chronic renal failure

Kremezin is an oral absorptive charcoal consisting of porous spherical activated carbon of high purity. It absorbs and excretes uremic toxins out of the body. Keremezin was introduced to the Japanese market in December 1991 as the first pharmaceuticals drug in the world for proactive treatment of chronic renal failure (progressive). In April, 2011, the marketing rights were transferred from Daiichi Sankyo to MTPC.
Origin, Manufacturer and distributor: Kureha

Depas (Etizolam)	Launch: Mar. 1984	Category	Antianxiety agent

Depas is the most widely used anxiolytic agent in Japan. Due to its broad pharmacological properties, Depas shows reasonable effectiveness for psychosomatic disease, neurosis, low back pain, neck pain and muscle-contraction headache, depression and sleep disorder.

Venoglobulin IH (Human immunoglobulin)	Launch: Jan. 1992	Category	Plasma derivatives

Venoglobulin IH is intravenous human immunoglobulin derived from donated plasma in Japan. It shows high efficacy on serious infectious diseases in combined administration with anti-bacterial agent due to its opsonic, immuno-bacteriolytic and antibody-dependent cytotoxic effects and neutralizing effects on toxics and viruses. In October 2010 and September 2011, the indications for improvement of muscle weakness associated with polymyositis or dermatomyositis and generalized myasthenia gravis (only in case of insufficient response to steroids or immunosuppressants) were added, respectively. It is expected to be a new treatment option for the diseases that contribute better QOL for patients.

Herbesser (Diltiazem)	Launch: Feb. 1974	Category	Calcium antagonist (Treatment of angina pectoris and hypertension)

Herbesser is a representative calcium antagonist that is used in more than 110 countries around the world. In addition to a blood pressure lowering effect, it has a cardioprotective action in patients with hypertension or angina pectoris by reducing the cardiac load through a heart rate lowering effect and by increasing the oxygen supply through a coronary vasodilating effect.

Tanatril (Imidapril)	Launch: Dec. 1993	Category	ACE inhibitor (Treatment of hypertension)
Tanatril shows excellent blood pressure control with effective organ protection as well as minimal incidence of dry cough, a common side effect of ACE inhibitors. With the approval of an additional indication in January 2002, it became the first drug in Japan approved for diabetic nephropathy with type I diabetes mellitus.			
Liple (Arprostadil)	Launch: Nov. 1988	Category	Agent for treatment for Chronic arterial occlusion / Circulatory disturbance (PGE1)
Liple, the world's first DDS (Drug Delivery System) agent of intravenous PGE1, improves the peripheral circulatory disturbance and skin ulcer in chronic arterial occlusive disease and diabetes by its direct vasodilating effects. DDS maximizes the therapeutic effects and simutaneously minimizes the adverse effects of PGE1.			
Sermion (Nicergoline)	Launch: Jun. 1988	Category	Cerebral circulation and metabolism ameliorator
Sermion ameliorates blood flow and metabolism in the brain. It is used to treat sequela of cerebral infarction. In 1998, its effectiveness was confirmed in a reevaluation by the Ministry of Health and Welfare in Japan. In "the treatment guidelines for strokes in 2009," Sermion was recommended as a treatment drug for chronic cerebral infarction. Origin: Pfizer			
Neuart (Anti-thrombin III)	Launch: Jun. 1987	Category	Plasma derivatives (Anticoagulant agent)
Neuart is highly purified human anti-thrombin III derived from donated plasma in Japan. It shows strong anticoagulant effects in the treatment of DIC patients by inhibiting various kinds of activated serine protease including thrombin.			
Omeprazon (Omeprazole)	Launch: Apr. 1991	Category	Proton pump inhibitor (Antiulcerogenic agent)
Omeprazon is the world's first proton pump inhibitor that suppresses gastric acid secretion. It strongly and sustainably blocks the final step in gastric acid production results in reducing gastric acidity. Omeprazon has excellent efficacy for gastric ulcer, duodenal ulcer and reflux esophagitis. Additional indications for non-erosive reflux disease (NERD) and secondary eradication of Hellicobacter pylori were approved in May and August 2007, respectively. Origin: AstraZeneca			
Mearubik (Live Attenuated Measles and Rubella Vaccine)	Launch: Dec. 2005	Category	Prevention of measles and rubella
Mearubik is the combination vaccine for measles and rubella, and children are able to receive both measles and rubella shot at a time with Mearubik. It is expected to contribute enhancement of immunization rate for measles and rubella in Japan. Origin, Manufacturer and distributor: BIKEN (The Research Foundation for Microbial Diseases of Osaka University)			
JEBIK V (Cell Culture-derived Japanese Encephalitis Vaccine)	Launch: Jan. 2009	Category	Prevention of Japanese encephalitis
JEBIK V is a freeze-dried preparation containing inactivated Japanese encephalitis virus derived from Vero cells which were used in the manufacturing process as a host to increase the virus. A freeze-dried prepared vaccine is available in routine vaccination. Accordingly, it is expected to increase in number of vaccinated persons. Origin, Manufacturer and distributor: BIKEN (The Research Foundation for Microbial Diseases of Osaka University)			
Lexapro (Escitalopram)	Launch: Aug. 2011	Category	Selective sertonin reuptake inhibitor (SSRI)
Lexapro is a selective serotonin reuptake inhibitor with high selectivity of serotonin transporter, and available in more than 96 countries and regions. By having good efficacy and tolerability, in addition to simple administration, it is expected to contribute to the improvement of medication adherence for patients with depression. Origin: H. Lundbeck, Manufacturer and distributor: Mochida Pharmaceutical			
Simponi (Golimumab)	Launch: Sep. 2011	Category	Anti-TNFα monoclonal antibody
Simponi is a human TNFα monoclonal antibody for the treatment of rheumatoid arthritis (including prevention of articular structural damage), and co-marketed with Janssen Pharmaceutical. It shows a long acting efficacy by subcutaneous injection once every four weeks, and currently is under development for the ulcerative colitis by Janssen Pharmaceutical. Origin: Janssen Biotech			
Telavic (Telaprevir)	Launch: Nov. 2011	Category	NS3-4A protease inhibitor
Teravic is positioned in the first-in-class oral drug for treating chronic hepatitis C. It inhibits hepatitis C virus (HCV) proliferation by inhibiting NS3-4A protease which involved in HCV replication. It was revealed that the combination therapy of three drugs (pegylated interferon, ribavirin and Teravic) improves therapeutic efficacy and shortens the treatment period, compared to the current standard therapy, for the patients with chronic hepatitis C affected by genotype 1 virus. In addition, it is expected to offer the new treatment opportunity to patients for whom the conventional treatment was not effective. Origin: Vertex			