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HIGHLIGHTS OF PRESCRIBING INFORMATION

These highlights do not include all the information needed to use MYCOPHENOLIC ACID DELAYED-RELEASE TABLETS safely and effectively. See full prescribing information for MYCOPHENOLIC ACID DELAYED-RELEASE TABLETS.

MYCOPHENOLIC ACID delayed-release tablets, for oral use Initial U.S. Approval: 2004

WARNING: EMBRYOFETAL TOXICITY, MALIGNANCIES, AND SERIOUS INFECTIONS
See full prescribing information for complete boxed warning

- Use during pregnancy is associated with increased risks of pregnancy loss and congenital malformations. Females of reproductive potential must be counseled regarding pregnancy prevention and planning. (5.1, 5.1.1, 5.1.1.1, 5.1.1.2, 5.1.1.3, 5.1.1.4, 5.1.1.5, 5.1.1.6, 5.1.1.7)
- Increased risk of development of lymphoma and other malignancies, particularly of the skin, due to immunosuppression. (5.4)
- Increased susceptibility to bacterial, viral, fungal, and protozoal infections, including opportunistic infections. (5.5, 5.6)
- Only physicians experienced in immunosuppressive therapy and management of organ transplant patients should prescribe mycophenolic acid delayed-release tablets. (5.3)

FULL PRESCRIBING INFORMATION

WARNING: EMBRYOFETAL TOXICITY, MALIGNANCIES, AND SERIOUS INFECTIONS

- Use during pregnancy is associated with increased risks of pregnancy loss and congenital malformations. Females of reproductive potential must be counseled regarding pregnancy prevention and planning. (See **Warnings and Precautions** (5.1), **Use in Specific Populations** (8.1, 8.1.6), **Increased risk of development of lymphoma and other malignancies, particularly of the skin, due to immunosuppression** (See **Warnings and Precautions** (5.4)), **Increased susceptibility to bacterial, viral, fungal, and protozoal infections, including opportunistic infections** (See **Warnings and Precautions** (5.5, 5.6)), and **Only physicians experienced in immunosuppressive therapy and management of organ transplant patients should prescribe mycophenolic acid delayed-release tablets. Patients receiving mycophenolic acid delayed-release tablets should be managed in facilities equipped and staffed with adequate laboratory and supportive medical resources. The physician responsible for maintenance therapy should have complete information available for the follow-up of the patient** (See **Warnings and Precautions** (5.3)).

1 INDICATIONS AND USAGE

1.1 Prophylaxis of Organ Rejection in Kidney Transplant
Mycophenolic acid delayed-release tablets are indicated for the prophylaxis of organ rejection in adult patients receiving a kidney transplant.

1.2 Limitations of Use
Mycophenolic acid delayed-release tablets and mycophenolate mofetil (MMF) tablets and capsules should not be used interchangeably without physician supervision because the rate of absorption following the administration of these two products is not equivalent.

2 DOSAGE AND ADMINISTRATION

2.1 Dosage in Adult Kidney Transplant Patients
The recommended dose of mycophenolic acid delayed-release tablets is 720 mg administered twice daily (1440 mg total daily dose).

2.2 Dosage in Pediatric Kidney Transplant Patients
The recommended dose of mycophenolic acid delayed-release tablets in conversion (at least 6 months post-transplant) pediatric patients age 5 years and older is 400 mg/m² body surface area (BSA) administered twice daily (up to a maximum dose of 720 mg administered twice daily).

2.3 Administration
Mycophenolic acid delayed-release tablets should be taken on an empty stomach, 1 hour before or 2 hours after food intake (See **Clinical Pharmacology** (12.3)).

Mycophenolic acid delayed-release tablets should not be crushed, chewed, or cut prior to ingesting. The tablets should be swallowed whole in order to maintain the integrity of the enteric coating.

Pediatric patients with a BSA of 1.19 to 1.58 m² may be dosed either with three mycophenolic acid delayed-release 180 mg tablets, or one 180 mg tablet plus one 360 mg tablet twice daily (1080 mg daily dose). Patients with a BSA of 1.58 m² may be dosed either with four mycophenolic acid delayed-release 180 mg tablets, or two mycophenolic acid delayed-release 360 mg tablets twice daily (1440 mg daily dose). Pediatric doses for patients with BSA < 1.19 m² may be accurately administered using currently available formulations of mycophenolic acid delayed-release tablets.

3 DOSAGE FORMS AND STRENGTHS
Mycophenolic acid delayed-release tablets are available as 180 mg and 360 mg tablets.

Table 1: Description of Mycophenolic Acid Delayed-Release Tablets		
Dosage Strength	360 mg tablet	180 mg tablet
Active ingredient	mycophenolic acid as mycophenolate sodium	mycophenolic acid as mycophenolate sodium
Appearance	Pink to light pink colored, enteric coated, round biconvex tablet	Lime green colored, enteric coated, round biconvex tablet
Imprint	"C2" on one side and plain on other side	"C1" on one side and plain on other side

4 CONTRAINDICATIONS

4.1 Hypersensitivity Reactions
Mycophenolic acid delayed-release tablets are contraindicated in patients with a hypersensitivity to mycophenolate sodium, mycophenolic acid, mycophenolate mofetil, or to any of its excipients. Reactions like rash, pruritus, hypotension, and chest pain have been observed in clinical trials and post marketing reports (See **Adverse Reactions** (6)).

5 WARNINGS AND PRECAUTIONS

5.1 Embryofetal Toxicity
Use of mycophenolic acid delayed-release tablets during pregnancy is associated with an increased risk of first trimester pregnancy loss and an increased risk of congenital malformations, especially external ear and other facial abnormalities including cleft lip and palate, anomalies of the distal limbs, heart, esophagus, kidney, and nervous system (See **Use in Specific Populations** (8.1)).

5.2 Pregnancy Exposure Prevention and Planning
Females of reproductive potential must be advised of the increased risk of first trimester pregnancy loss and congenital malformations and must be counseled regarding pregnancy prevention and planning. For recommended pregnancy testing and contraception methods (See **Use in Specific Populations** (8.1)).

5.3 Management of Immunosuppression
Only physicians experienced in immunosuppressive therapy and management of organ transplant patients should prescribe mycophenolic acid delayed-release tablets. Patients receiving the drug should be managed in facilities equipped and staffed with adequate laboratory and supportive medical resources. The physicians responsible for maintenance therapy should have complete information available for the follow-up of the patient (See **Boxed Warning**).

5.4 Lymphoma and Other Malignancies
Patients receiving immunosuppressants, including mycophenolic acid delayed-release tablets, are at increased risk of developing lymphomas and other malignancies, particularly of the skin (See **Adverse Reactions** (6)). The risk appears to be related to the intensity and duration of immunosuppression rather than to any specific agent.

As usual for patients with increased risk for skin cancer, exposure to sunlight and UV light should be limited by wearing protective clothing and using a sunscreen with a high protection factor.

Post-transplant lymphoproliferative disorder (PTLD) has been reported in immunosuppressed organ transplant recipients. The majority of PTLDs appear related to Epstein Barr Virus (EBV) infection. The risk of PTLD appears greatest in those individuals who are EBV seronegative, a population which includes many young children.

5.5 Serious Infections
Patients receiving immunosuppressants, including mycophenolic acid delayed-release tablets, are at increased risk of developing bacterial, viral, fungal, and protozoal infections, and new or reactivated viral infections including opportunistic infections (See **Warnings and Precautions** (5.6)). These infections may lead to serious, including fatal, outcomes because of over-suppression of the immune system which can increase susceptibility to infections, including immunosuppressive therapy should be used with caution.

5.6 New or Reactivated Viral Infections
Polyomavirus associated nephropathy (PVAN), JC virus associated progressive multifocal leukoencephalopathy (PML), cytomegalovirus (CMV) infections, reactivation of hepatitis B (HBV) or hepatitis C (HCV) have been reported in patients treated with immunosuppressants, including the mycophenolic acid (MPA) derivatives mycophenolic acid delayed-release tablets and MMF. Reduction in immunosuppression should be considered for patients who develop evidence of new or reactivated viral infections. Physicians should also consider the risk that reduced immunosuppression represents to the functioning allograft.

PVAN, especially due to BK virus infection, is associated with serious outcomes, including deteriorating renal function and renal graft loss. Patient monitoring may help detect patients at risk for PVAN.

PML, which is sometimes fatal, commonly presents with hemiparesis, apathy, confusion, cognitive deficiencies, and ataxia. Risk factors for PML include treatment with immunosuppressive therapies and impairment of immune function in immunosuppressed patients. Physicians should consider PML in the differential diagnosis in patients reporting neurological symptoms and consultation with a neurologist should be considered as clinically indicated.

The risk of CMV viremia and CMV disease is highest among transplant recipients seronegative for CMV at time of transplant who receive a graft from a CMV seropositive donor. Various approaches to limiting CMV disease exist and should be routinely performed. Patient monitoring may help detect patients at risk for CMV disease. (See **Adverse Reactions** (6)).

Viral reactivation has been reported in patients infected with HBV or HCV. Monitoring infected patients for clinical and laboratory signs of active HBV or HCV infection is recommended.

5.7 Blood Dyscrasias Including Pure Red Cell Aplasia
Cases of pure red cell aplasia (PRCA) have been reported in patients treated with MPA derivatives in combination with other immunosuppressive agents. The mechanism for MPA derivatives induced PRCA is unknown; the relative contribution of other immunosuppressants and their combinations in an immunosuppressive regimen is also unknown. In some cases PRCA was found to be reversible with dose reduction or cessation of therapy with MPA derivatives. In transplant patients, however, reduced immunosuppression may place the graft at risk. Changes to mycophenolic acid delayed-release tablet therapy should only be undertaken under appropriate supervision in transplant recipients in order to minimize the risk of graft rejection. Patients receiving mycophenolic acid delayed-release tablets should be monitored for blood dyscrasias (e.g., neutropenia or anemia). The development of neutropenia may be related to mycophenolic acid delayed-release tablets itself, concomitant medications, viral infections, or some combination of these reactions. Complete blood count should be performed

weekly during the first month, twice monthly for the second and the third month of treatment, then monthly through the first year. If blood dyscrasias occur (neutropenia develops (ANC < 1.3 × 10⁹/L) or anemia), dosing with mycophenolic acid delayed-release tablets should be interrupted or the dose reduced, appropriate tests performed, and the patient managed accordingly.

5.8 Serious GI Tract Complications
Gastrointestinal bleeding (requiring hospitalization), intestinal perforations, gastric ulcers, and duodenal ulcers have been reported in patients treated with mycophenolic acid delayed-release tablets. Mycophenolic acid delayed-release tablets should be administered with caution in patients with active serious digestive system disease.

5.9 Immunizations
The use of live attenuated vaccines should be avoided during treatment with mycophenolic acid delayed-release tablets; examples include (but not limited to) the following: intranasal influenza, measles, mumps, rubella, oral polio, BCG, yellow fever, varicella, and VY21a typhoid vaccines.

5.10 Rare Hereditary Deficiencies
Mycophenolic acid delayed-release tablets are an inosine monophosphate dehydrogenase inhibitor (IMPDH Inhibitor). Mycophenolic acid delayed-release tablets should be avoided in patients with rare hereditary deficiency of hypoxanthine phosphoribosyl-transferase (HGPRT) such as Lesch-Nyhan and Kelley-Seegmiller syndromes because it may cause an exacerbation of disease symptoms characterized by the overproduction and accumulation of uric acid leading to symptoms associated with gout such as acute arthritis, tophi, nephrolithiasis or urolithiasis and renal disease including renal failure.

6 ADVERSE REACTIONS
The following adverse reactions are discussed in greater detail in other sections of the label.

- Embryofetal Toxicity (See **Boxed Warning, Warnings and Precautions** (5.1))
- Lymphomas and Other Malignancies (See **Boxed Warning, Warnings and Precautions** (5.4))
- Serious Infections (See **Boxed Warning, Warnings and Precautions** (5.5))
- New or Reactivated Viral Infections (See **Warnings and Precautions** (5.6))
- Blood Dyscrasias Including Pure Red Cell Aplasia (See **Warnings and Precautions** (5.7))
- Serious GI Tract Complications (See **Warnings and Precautions** (5.8))
- Rare Hereditary Deficiencies (See **Warnings and Precautions** (5.10))

6.1 Clinical Studies Experience
Because clinical trials are conducted under widely varying conditions, adverse reaction rates reported in the clinical trials of a drug cannot be directly compared to rates in the clinical trials of another drug and may not reflect the rates observed in practice.

The data described below derive from two randomized, comparative, active-controlled, double-blind, double-dummy trials in prevention of acute rejection in *de novo* and converted stable kidney transplant patients.

In the *de novo* trial, patients were administered either mycophenolic acid delayed-release tablets (1440 mg per day (N=213)) or MMF 2 grams per day (N=210) within 48 hours post-transplant for 12 months in combination with cyclosporine, USP MODIFIED and corticosteroids. Forty-one percent of patients also received antibody therapy as induction treatment. In the conversion trial, renal transplant patients who were at least 6 months post-transplant and receiving 2 grams per day MMF in combination with cyclosporine USP MODIFIED, with or without corticosteroids for at least two weeks prior to entry in the trial were randomized to mycophenolic acid delayed-release tablets 1.44 grams per day (N=159) or MMF 2 grams per day (N=163) for 12 months.

The average age of patients in both studies was 47 years and 48 years (*de novo* study and conversion study, respectively), ranging from 22 to 75 years. Approximately 66% of patients were male; 82% were white, 12% were black, and 6% other races. About 40% of patients were from the United States and 60% from other countries.

In the *de novo* trial, the overall incidence of discontinuation due to adverse reactions was 18% (39/213) and 17% (35/210) in the mycophenolic acid delayed-release tablets and MMF arms, respectively. The most common adverse reactions leading to discontinuation in the mycophenolic acid delayed-release tablets arm were adverse reactions (44%), dose reductions (2%), diarrhea (2%), vomiting (1%), renal impairment (1%), CMV infection (1%), and leukopenia (1%). The overall incidence of patients reporting dose reduction at least once during the 0 to 12 month study period was 59% and 60% in the mycophenolic acid delayed-release tablets and MMF arms, respectively. The most frequent reasons for dose reduction in the mycophenolic acid delayed-release tablets arm were adverse reactions (44%), dose reductions prior to protocol guidelines (17%), dosing errors (11%) and missing data (2%).

The most common adverse reactions (> 20%) associated with the administration of mycophenolic acid delayed-release tablets were anemia, leukopenia, constipation, nausea, diarrhea, vomiting, dyspepsia, urinary tract infection, CMV infection, insomnia, and postoperative pain.

The adverse reactions reported in > 10% of patients in the *de novo* trial are presented in Table 2 below.

	Table 2: Adverse Reactions (%) Reported in > 10% of <i>de novo</i> Kidney Transplant Patients in Either Treatment Group	
	Mycophenolic Acid Delayed-Release Tablets, 1.44 grams per day (n=213) (%)	mycophenolate mofetil (MMF), 2 grams per day (n=210) (%)
Blood and Lymphatic System Disorders		
Anemia	22	22
Leukopenia	19	21
Gastrointestinal System Disorders		
Constipation	38	40
Nausea	29	27
Diarrhea	24	25
Vomiting	23	20
Dyspepsia	23	19
Abdominal pain upper	14	14
Flatulence	10	13
General and Administrative Site Disorders		
Edema	17	18
Edema lower limb	16	17
Pyrexia	13	19
Investigations		
Increased blood urea nitrogen	15	10
Infections and Infestations		
Urinary Tract Infection	29	33
CMV Infection	20	18
Metabolism and Nutrition Disorders		
Hypocalcemia	11	15
Hyperrubinemia	13	13
Hypophosphatemia	12	10
Hypokalemia	13	9
Hypophosphatemia	11	9
Musculoskeletal, Connective Tissue and Bone Disorders		
Back pain	12	6
Arthralgia	7	11
Nervous System Disorder		
Headache	24	24
Tremor	12	14
Insomnia	13	11
Vascular Disorders		
Hypertension	18	18

*The trial was not designed to support comparative claims for mycophenolic acid delayed-release tablets for the adverse reactions reported in this table.

Table 3 summarizes the incidence of opportunistic infections in *de novo* transplant patients.

	Table 3: Viral and Fungal Infections (%) Reported Over 0 to 12 Months	
	Mycophenolic Acid Delayed-Release Tablets 1.44 grams per day (n=213) (%)	Mycophenolate mofetil (MMF) 2 grams per day (n=210) (%)
Any Cytomegalovirus	22	21
- Cytomegalovirus Disease	5	4
Herpes Zoster	5	4
Any Fungal Infection	11	12
- Candida NOS	6	6
- Candida albicans	2	4

Lymphoma developed in 2 *de novo* patients (1% (1 diagnosed 9 days after treatment initiation) and in 2 conversion patients (1% receiving mycophenolic acid delayed-release tablets with other immunosuppressive agents in the 12-month controlled clinical trials).

Non-melanoma skin carcinoma occurred in 1% *de novo* and 12% conversion patients. Other types of malignancy occurred in 1% *de novo* and 1% conversion patients (See **Warnings and Precautions** (5.4)).

The adverse reactions reported in < 10% of *de novo* or conversion patients treated with mycophenolic acid delayed-release tablets in combination with cyclosporine and corticosteroids are listed in Table 4.

Table 4: Adverse Reactions Reported in < 10% of Patients Treated with Mycophenolic Acid Delayed-Release Tablets in Combination with Cyclosporine and Corticosteroids		
Blood and Lymphatic Disorders	Lymphocytopenia, thrombocytopenia	
Cardiac Disorder	Tachycardia	

(To be Continue.)

Eye Disorder	Vision blurred
Gastrointestinal Disorders	Abdominal pain, abdominal distension, gastroesophageal reflux disease, gingival hyperplasia
General Disorders and Administration Site Conditions	Fatigue, peripheral edema
Infections and Infestations	Nasopharyngitis, herpes simplex, upper respiratory infection, oral candidiasis, herpes zoster, sinusitis, influenza, wound infection, implant infection, pneumonia, sepsis
Investigations	Hemoglobin decrease, liver function tests abnormal
Metabolism and Nutrition Disorders	Hypercholesterolemia, hyperkalemia, hypoglycemia, diabetes mellitus, hyperglycemia
Musculoskeletal and Connective Tissue Disorders	Arthralgia, pain in limb, peripheral swelling, muscle cramps, myalgia
Nervous System Disorders	Dizziness (excluding vertigo)
Psychiatric Disorders	Anxiety
Renal and Urinary Disorders	Renal tubular necrosis, renal impairment, hematuria, urinary retention
Respiratory, Thoracic and Mediastinal Disorders	Cough, dyspnea, dyspnea exertional
Skin and Subcutaneous Tissue Disorders	Acne, pruritus, rash
Vascular Disorders	Hypertension aggravated, hypotension

* USP MODIFIED
The following additional adverse reactions have been associated with the exposure to mycophenolic acid (MPA) when administered as a sodium salt or as mofetil ester:

Gastrointestinal: Intestinal perforation, gastrointestinal hemorrhage, gastric ulcers, duodenal ulcers (See **Warnings and Precautions** (5.8)), colitis (including CMV colitis), pancreatitis, esophagitis, and ileus.

Infection: Serious life-threatening infections such as meningitis and infectious endocarditis, tuberculosis, and atypical mycobacterial infection (See **Warnings and Precautions** (5.5)).

Respiratory: Interstitial lung disorders, including fatal pulmonary fibrosis.

6.2 Postmarketing Experience
The following adverse reactions have been identified during post-approval use of mycophenolic acid delayed-release tablets or other MPA derivatives. Because these reactions are reported voluntarily from a population of uncertain size, it is not always possible to reliably estimate their frequency or establish a causal relationship to drug exposure.

- Congenital malformations including ear, facial, cardiac and nervous system malformations and an increased incidence of first trimester pregnancy loss have been reported following exposure to MMF during pregnancy (See **Boxed Warning, Warnings and Precautions** (5.1)).
- Infections (See **Warnings and Precautions** (5.5, 5.6))
 - Cases of progressive multifocal leukoencephalopathy (PML), sometimes fatal.
 - Polyomavirus associated nephropathy (PVAN), especially due to BK virus infection, associated with serious outcomes, including deteriorating renal function and renal graft loss.
 - Viral reactivation in patients infected with HBV or HCV.
- Cases of pure red cell aplasia (PRCA) have been reported in patients treated with MPA derivatives in combination with other immunosuppressive agents (See **Warnings and Precautions** (5.7)).

The following additional adverse reactions have been identified during postapproval use of mycophenolic acid delayed-release tablets: agranulocytosis, asthma, osteomyelitis, lymphadenopathy, lymphoma, wheezing, dry mouth, gastritis, peritonitis, anorexia, alopecia, peripheral edema, Kaposi's sarcoma.

7 DRUG INTERACTIONS

7.1 Antacids with Magnesium and Aluminum Hydroxides
Concomitant use of mycophenolic acid delayed-release tablets and antacids decreased plasma concentrations of mycophenolic acid (MPA). It is recommended that mycophenolic acid delayed-release tablets and antacids not be administered simultaneously (See **Clinical Pharmacology** (12.3)).

7.2 Azathioprine
Given that azathioprine and MMF inhibit purine metabolism, it is recommended that mycophenolic acid delayed-release tablets not be administered concomitantly with azathioprine or MMF.

7.3 Cholestyramine, Bile Acid Sequestrants, Oral Activated Charcoal and Other Drugs that Interfere with Enterohepatic Recirculation
Drugs that interrupt enterohepatic recirculation may decrease MPA plasma concentrations when administered with MMF. Therefore, do not administer mycophenolic acid delayed-release tablets with cholestyramine or other agents that may interfere with enterohepatic recirculation or drugs that may bind bile acids, e.g., bile acid sequestrants or oral activated charcoal, because of the potential to reduce the efficacy of mycophenolic acid delayed-release tablets (See **Clinical Pharmacology** (12.3)).

7.4 Sevelamer
Concomitant administration of sevelamer and MMF may decrease MPA plasma concentrations. Sevelamer and other calcium free phosphate binders should not be administered simultaneously with mycophenolic acid delayed-release tablets (See **Clinical Pharmacology** (12.3)).

7.5 Cyclosporine
Cyclosporine inhibits the enterohepatic recirculation of PML, and therefore, MPA plasma concentrations may be decreased when mycophenolic acid delayed-release tablets are administered with cyclosporine. Clinicians should be aware that there is also a potential change of MPA plasma concentrations after switching from cyclosporine to other immunosuppressive drugs or from other immunosuppressive drugs to cyclosporine in patients concomitantly receiving mycophenolic acid delayed-release tablets (See **Clinical Pharmacology** (12.3)).

7.6 Norfloxacin and Metronidazole
MPA plasma concentrations may be decreased when MMF is administered with norfloxacin and metronidazole. Therefore, mycophenolic acid delayed-release tablets are not recommended to be given with rifampin concomitantly unless the benefit outweighs the risk (See **Clinical Pharmacology** (12.3)).

7.8 Hormonal Contraceptives
In a drug interaction study, mean levonorgestrel AUC was decreased by 15% when administered with MMF. Although mycophenolic acid delayed-release tablets may not have any influence on the ovulation-suppressing action of oral contraceptives, it is recommended to administer mycophenolic acid delayed-release tablets with hormonal contraceptives (e.g., birth control pill, transdermal patch, vaginal ring, injection, and implant) with caution, and additional barrier contraceptive methods must be used (See **Warnings and Precautions** (5.2), **Use in Specific Populations** (8.6), and **Clinical Pharmacology** (12.3)).

7.9 Acyclovir (Valacyclovir), Ganciclovir (Valganciclovir), and Other Drugs that Undergo Renal Tubular Secretion
The administration of MMF and acyclovir or ganciclovir may increase plasma concentrations of mycophenolic acid glucuronide (MPAG) and acyclovir/valacyclovir/ganciclovir/valganciclovir as their coexistence compounds for tubular secretion.

Both acyclovir/valacyclovir/ganciclovir/valganciclovir and MPAG concentrations will be also increased in the presence of renal impairment.

Acyclovir/valacyclovir/ganciclovir/valganciclovir may be taken with mycophenolic acid delayed-release tablets; however, during the period of treatment, physicians should monitor blood cell counts (See **Clinical Pharmacology** (12.3)).

7.10 Ciprofloxacin, Amoxicillin plus Clavulanic Acid and Other Drugs that Alter the Gastrointestinal Flora
Drugs that alter the gastrointestinal flora such as ciprofloxacin or amoxicillin plus clavulanic acid may interact with MMF by disrupting enterohepatic recirculation. Interference of MPAG hydrolysis may lead to less MPA available for absorption when mycophenolic acid delayed-release tablets is concomitantly administered with ciprofloxacin or amoxicillin plus clavulanic acid. The clinical relevance of this interaction is unclear; however, no dose adjustment of mycophenolic acid delayed-release tablets is needed when coadministered with these drugs (See **Clinical Pharmacology** (12.3)).

7.11 Pantoprazole
Administration of a pantoprazole at a dose of 40 mg twice daily for 4 days to healthy volunteers did not alter the pharmacokinetics of a single dose of mycophenolic acid delayed-release tablets (See **Clinical Pharmacology** (12.3)).

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy
For those females using mycophenolic acid delayed-release tablets at any time during pregnancy and those becoming pregnant within 6 weeks of discontinuing therapy, the healthcare practitioner should report the pregnancy to the Mycophenolate Pregnancy Registry (1-800-617-8191). The healthcare practitioner should strongly encourage the patient to enroll in the pregnancy registry. The information provided to the registry will help the Health Care Community to better understand the effects of mycophenolate in pregnancy.

Risk Summary
Following oral or intravenous (IV) administration, MMF is metabolized to mycophenolic acid (MPA), the active ingredient in mycophenolic acid delayed-release tablets and the active form of the drug. Use of MMF during pregnancy is associated with an increased risk of first trimester

pregnancy loss and an increased risk of congenital malformations, especially external ear and other facial abnormalities including cleft lip and palate, and anomalies of the distal limbs, heart, esophagus, kidney and nervous system. In animal studies, congenital malformations and pregnancy loss occurred when pregnant rats and rabbits received mycophenolic acid at doses multiples similar to and less than clinical doses.

Risks and benefits of mycophenolic acid delayed-release tablets should be discussed with the patient. When appropriate, consider alternative immunosuppressants with less potential for embryofetal toxicity. In certain situations, the patient and her healthcare practitioner may decide that the maternal benefits outweigh the risks to the fetus. If this drug is used during pregnancy, or if the patient becomes pregnant while taking this drug, the patient should be apprised of the potential hazard to the fetus.

Data
Human Data
In the National Transplantation Pregnancy Registry (NTPR), there were data on 33 MMF-exposed pregnancies in 24 transplant patients; there were 15 spontaneous abortions (45%) and 18 live-born infants. Four of these 18 infants had structural malformations (22%). In postmarketing data collected from 1995 to 2007 on 77 women exposed to systemic MMF during pregnancy, 25 had spontaneous abortions and 14 had a malformed infant or fetus. Six of 14 malformed offspring had abnormalities. Because these postmarketing data are reported voluntarily, it is not always possible to reliably estimate the frequency of particular adverse outcomes. These malformations are similar to findings in animal reproductive toxicology studies. For comparison, the background rate for congenital anomalies in the United States is about 3%, and NTPR data show a rate of 4%-5% among babies born to organ transplant patients using other immunosuppressive drugs. There are no relevant qualitative or quantitative differences in the teratogenic potential of mycophenolate sodium and MMF.

Animal Data
In a teratology study performed with mycophenolate sodium in rats, at a dose as low as 1 mg per kg, malformations in the offspring were observed, including anophthalmia, exencephaly, the umbilical hernia. The systemic exposure at this dose represents 0.05 times the clinical exposure at the dose of 1440 mg per day mycophenolic acid delayed-release tablets. In teratology studies in rabbits, fetal resorptions and malformations occurred at doses equal to or greater than 80 mg per kg per day, in the absence of maternal toxicity (which corresponds to about 1.1 times the recommended clinical dose, based on body surface area).

8.3 Nursing Mothers
It is not known whether MPA is excreted in human milk. Because many drugs are excreted in human milk and because of the potential for serious adverse reactions in nursing infants from mycophenolic acid delayed-release tablets, a decision should be made whether to discontinue nursing or discontinue the drug, taking into account the importance of the drug to the mother.

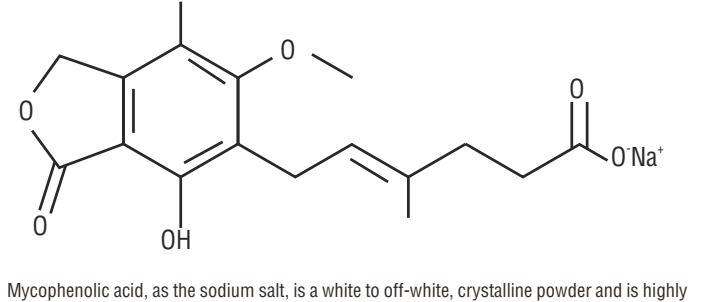
8.4 Pediatric Use
The safety and effectiveness of mycophenolic acid delayed-release tablets have been established in pediatric kidney transplant patients 5 to 16 years of age who were initiated on mycophenolic acid delayed-release tablets at least 6 months post-transplant. Use of mycophenolic acid delayed-release tablets in this age group is supported by evidence from mycophenolic acid delayed-release tablets and antacids decreased plasma concentrations of mycophenolic acid (MPA). It is recommended that mycophenolic acid delayed-release tablets and antacids not be administered simultaneously (See **Clinical Pharmacology** (12.3)). Pediatric doses for patients with BSA < 1.19 m² cannot be accurately administered using currently available formulations of mycophenolic acid delayed-release tablets.

The safety and effectiveness of mycophenolic acid delayed-release

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hydroxy-6-methoxy-7-methyl-3-oxo-1,3-dihydroisobenzofuran-5-yl)-4-methyl-4-enoic acid sodium salt.

Its empirical formula is $C_{21}H_{20}O_6Na$. The molecular weight is 342.32 and the structural formula is:



Mycophenolic acid, as the sodium salt, is a white to off-white, crystalline powder and is highly soluble in aqueous media at physiological pH and practically insoluble in 0.1N hydrochloric acid.

Mycophenolic acid is available for oral use as delayed-release tablets containing either 180 mg or 360 mg of mycophenolic acid.

Inactive ingredients include microcrystalline cellulose, croscarmellose sodium, povidone, colloidal silicon dioxide, talc, magnesium stearate. The enteric coating of the tablet consists of methacrylic acid and ethyl acrylate copolymer, talc, titanium dioxide, triethyl citrate, colloidal anhydrous silica, sodium bicarbonate, iron oxide yellow, sodium lauryl sulfate, FD&C blue #2 (180mg) or iron oxide red (360mg).

FDA approved dissolution acceptance criteria differ from the USP dissolution acceptance criteria.

12 CLINICAL PHARMACOLOGY

12.1 Mechanism of Action

Mycophenolic acid (MPA) is an immunosuppressant, is an uncompetitive and reversible inhibitor of inosine monophosphate dehydrogenase (IMPDH), and therefore inhibits the *de novo* pathway of purine nucleotide synthesis without incorporation to DNA. T- and B-lymphocytes are critically dependent for their proliferation on *de novo* synthesis of purines, whereas other cell types can utilize salvage pathways. MPA has cytotoxic effects on lymphocytes.

Mycophenolate sodium has been shown to prevent the occurrence of acute rejection in rat models of kidney and heart allotransplantation. Mycophenolate sodium also decreases antibody production in mice.

12.3 Pharmacokinetics

Mycophenolic acid delayed-release tablets exhibits linear and dose-proportional pharmacokinetics over the dose-range (360 to 2160 mg) evaluated. The absolute bioavailability of mycophenolic acid delayed-release tablets in stable renal transplant patients on cyclosporine was 72%. MPA is highly protein-bound (~98% bound to albumin). The predominant metabolite of MPA is the phenolic glucuronide (MPAG) which is pharmacologically inactive. A minor metabolite ACMPAG which is an acyl glucuronide of MPAG is also formed and has pharmacological activity comparable to MPA. MPAG undergoes renal elimination. A fraction of MPAG also undergoes biliary excretion, followed by deconjugation by flora and subsequent reabsorption as MPA. The mean elimination half-lives of MPA and MPAG ranged between 8 and 16 hours, and 13 and 17 hours, respectively.

Absorption

In vitro studies demonstrated that the enteric-coated mycophenolic acid delayed-release tablets does not release MPA under acidic conditions (pH 5) as in the stomach but is highly soluble in neutral pH conditions as in the intestine. Following mycophenolic acid delayed-release tablets oral administration without food in several pharmacokinetic studies conducted in renal transplant patients, consistent with its enteric-coated formulation, the median T_{max} (in the rise of MPA concentration) ranged between 0.25 and 1.25 hours and the median time to maximum concentration (T_{max}) of MPA ranged between 1.5 and 2.75 hours. In comparison, following the administration of MMF, the median T_{max} ranged between 0.5 and 1.0 hours. In stable renal transplant patients on cyclosporine, USP MODIFIED based immunosuppression, gastrointestinal absorption and absolute bioavailability of MPA following the administration of mycophenolic acid delayed-release tablets was 93% and 72%, respectively. Mycophenolic acid delayed-release tablets pharmacokinetics is dose proportional over the dose range of 360 to 2160 mg.

Distribution

The mean (±SD) volume of distribution at steady state and elimination phase for MPA is 54 (±25) L and 112 (±48) L, respectively. MPA is highly protein bound to albumin, ~98%. The protein binding of mycophenolic acid glucuronide (MPAG) is 82%. The free MPA concentration may increase under conditions of decreased protein binding (uremia, hepatic failure, and hypocalcemia).

Metabolism

MPA is metabolized principally by glucuronyl transferase to glucuronated metabolites. The phenolic glucuronide of MPA, mycophenolic acid glucuronide (MPAG), is the predominant metabolite of MPA and does not manifest pharmacological activity. The acyl glucuronide is a minor metabolite and has comparable pharmacological activity to MPA. In stable renal transplant patients on cyclosporine, USP MODIFIED based immunosuppression, approximately 28% of the oral mycophenolic acid delayed-release tablets dose was converted to MPAG by glucuronidation. The AUC ratio of MPA:MPAG and glucuronide is approximately 1.24:0.28 at steady state. The mean clearance of MPA was 140 (±30) mL/min.

Elimination

The majority of MPA dose administered is eliminated in the urine primarily as MPAG (~60%) and approximately 3% as unchanged MPA following mycophenolic acid delayed-release tablets administration to stable renal transplant patients. The mean renal clearance of MPA was 15.5 (±5.9) mL/min. MPAG is also secreted in the bile and available for deconjugation by gut flora. MPA resulting from the bile may be reabsorbed and produce a second peak of MPA approximately 6 to 8 hours after mycophenolic acid delayed-release tablets dosing. The mean elimination half-life of MPA and MPAG ranged between 8 and 16 hours, and 13 and 17 hours, respectively.

Food Effect

Compared to the fasting state, administration of mycophenolic acid delayed-release tablets 720 mg with a high-fat meal (55 g fat, 1000 calories) had no effect on the systemic exposure (AUC) of MPA. However, there was a 23% decrease in the mean C_{max} and a 3.5-hour delay in the T_{max} (range, -6 to 18 hours), and 5-hour delay in the $T_{1/2}$ (range, -9 to 20 hours) of MPA. To avoid the variability in MPA absorption between doses, mycophenolic acid delayed-release tablets should be taken on an empty stomach [see Dosage and Administration (2.3)].

Pharmacokinetics in Renal Transplant Patients

The mean pharmacokinetic parameters for MPA following the administration of mycophenolic acid delayed-release tablets in renal transplant patients on cyclosporine, USP MODIFIED based immunosuppression are shown in Table 6. Single-dose mycophenolic acid delayed-release tablets pharmacokinetics predicts multiple-dose pharmacokinetics. However, in the early post-transplant period, mean MPA AUC and C_{max} were approximately one-half of those measured 6 months post-dosing.

After near equimolar dosing of mycophenolic acid delayed-release tablets 720 mg twice daily and MMF 1000 mg twice daily (739 mg as MPA) in both the single- and multiple-dose cross-over trials, mean systemic MPA exposure (AUC) was similar.

Table 6: Mean ± SD Pharmacokinetic Parameters for MPA Following the Oral Administration of Mycophenolic Acid Delayed-Release Tablets to Renal Transplant Patients on Cyclosporine, USP MODIFIED Based Immunosuppression

Patient	Mycophenolic Acid Delayed-Release Tablets Dosing	N	Dose (mg)	T_{max} (h)	C_{max} (ng/mL)	$AUC_{0-\infty}$ (mg·h/mL)
Adult	Single	24	720	2 (0.8-8)	26.1 ± 12.0	66.5 ± 22.6**
Pediatric***	Single	10	450**	2.5 (1.5-24)	36.3 ± 20.9	74.3 ± 22.5**
Adult	Multiple 6x days, twice daily	10	720	2 (1.5-3.0)	37.0 ± 13.3	67.9 ± 20.3
Adult	Multiple x28 days, twice daily	36	720	2.5 (1.5-8)	31.2 ± 18.1	71.2 ± 28.3
Adult	Chronic, multiple dose, twice daily					
	2 weeks post-transplant	12	720	1.8 (1.0-5.3)	15.0 ± 10.7	28.6 ± 11.5
	3 months post-transplant	12	720	2 (0.5-2.5)	26.2 ± 12.7	52.3 ± 17.4
	6 months post-transplant	12	720	2 (0-3)	24.1 ± 9.6	57.2 ± 15.3
Adult	Chronic, multiple dose, twice daily	18	720	1.5 (0-6)	18.9 ± 7.9	57.4 ± 15.0

*median (range)
**AUC_{0-12h}
***age range of 5-16 years

Specific Populations

Renal Insufficiency:

No specific pharmacokinetic studies in individuals with renal impairment were conducted with mycophenolic acid delayed-release tablets. However, based on studies of renal impairment with MMF, MPA exposure is not expected to be appreciably increased over the range of normal to severely impaired renal function following mycophenolic acid delayed-release tablets administration. In contrast, MPAG exposure would be increased markedly with decreased renal function; MPAG exposure being approximately 8-fold higher in the setting of anuria. Although dialysis may be used to remove the inactive metabolite MPAG, it would not be expected to remove clinically significant amounts of the active moiety MPA. This is in large part due to the high plasma protein binding of MPA.

Hepatic Insufficiency:

No specific pharmacokinetic studies in individuals with hepatic impairment were conducted with mycophenolic acid delayed-release tablets. In a single dose (MMF 1000 mg) trial of 18 volunteers with alcoholic cirrhosis and 6 healthy volunteers, hepatic MPA glucuronidation processes appeared to be relatively unaffected by hepatic parenchymal disease when the pharmacokinetic parameters of healthy volunteers and alcoholic cirrhosis patients within this trial were compared. However, it should be noted that for unexplained reasons, the healthy volunteers in this trial had about a 50% lower AUC compared to healthy volunteers in other

studies, thus making comparison between volunteers with alcoholic cirrhosis and healthy volunteers difficult. Effects of hepatic disease on this process probably depend on the particular disease. Hepatic disease, such as primary biliary cirrhosis, with other etiologies may show a different effect.

Pediatrics:

Limited data are available on the use of mycophenolic acid delayed-release tablets at a dose of 450 mg/m² body surface area in children. The mean MPA pharmacokinetic parameters for stable pediatric renal transplant patients, 5 to 16 years, on cyclosporine, USP MODIFIED are shown in Table 6. At the same dose administered based on body surface area, the respective mean C_{max} and AUC of MPA determined in children were higher by 33% and 18% than those determined for adults. The clinical impact of the increase in MPA exposure is not known [see Dosage and Administration (2.2, 2.3)].

Gender:

There are no significant gender differences in mycophenolic acid delayed-release tablets pharmacokinetics.

Elderly:

Pharmacokinetics in the elderly have not been formally studied.

Ethnicity:

Following a single dose administration of 720 mg of mycophenolic acid delayed-release tablets to 18 Japanese and 18 Caucasian healthy subjects, the exposure (AUC_{0-12h}) for MPA and MPAG were 15% and 22% lower in Japanese subjects compared to Caucasians. The peak concentrations (C_{max}) for MPAG were similar between the two populations, however, Japanese subjects had 9.6% higher C_{max} for MPA. These results do not suggest any clinically relevant differences.

Drug Interactions:

Antacids with Magnesium and Aluminum Hydroxides:

Absorption of a single dose of mycophenolic acid delayed-release tablets was decreased when administered to 12 stable kidney transplant patients also taking magnesium-aluminum-containing antacids (30 mL); the mean C_{max} and AUC_{0-12h} values for MPA were 25% and 37% lower, respectively, than when mycophenolic acid delayed-release tablets was administered alone under fasting conditions [see Drug Interactions (7.7)].

Pantoprazole:

In a trial conducted in 12 healthy volunteers, the pharmacokinetics of MPA were observed to be similar when a single dose of 720 mg of mycophenolic acid delayed-release tablets was administered alone and following concomitant administration of mycophenolic acid delayed-release tablets and pantoprazole, which was administered at a dose of 40 mg twice daily for 4 days [see Drug Interactions (7.11)].

The following drug interaction studies were conducted following the administration of MMF:

Cholestyramine:

Following a single oral administration of 1.5 grams MMF to 12 healthy volunteers pretreated with 4 grams three times daily of cholestyramine for 4 days, MPA AUC decreased approximately 40%. This decrease is consistent with interruption of enterohepatic recirculation which may be due to binding of recirculating MPAG with cholestyramine in the intestine [see Drug Interactions (7.3)].

Sevelamer:

Concomitant administration of sevelamer and MMF in stable adult and pediatric kidney transplant patients decreased the mean MPA C_{max} and AUC_{0-12h} by 36% and 26%, respectively [see Drug Interactions (7.4)].

Cyclosporine:

Cyclosporine (Sandimmune®) pharmacokinetics (at doses of 275 to 415 mg/day) were unaffected by single and multiple doses of 1.5 grams twice daily of MMF in 10 stable kidney transplant patients. The mean (±SD) AUC_{0-12h} and C_{max} of cyclosporine after 14 days of multiple doses of MMF were 3290 (±822) ng/mL and 753 (±161) ng/mL, respectively, compared to 3245 (±1088) ng/mL and 700 (±246) ng/mL, respectively, 1 week before administration of MMF.

A total of 73 *de novo* kidney allograft recipients on MMF therapy received either low dose cyclosporine withdrawn by 6 months post-transplant (50 to 100 mg), for up to 3 months post-transplant followed by complete withdrawal at month 6 post-transplant or standard dose cyclosporine (150 to 300 ng/mL from baseline through month 4 post-transplant and 100 to 200 ng/mL thereafter). At month 12 post-transplant, the mean MPA (AUC_{0-12h}) in the cyclosporine withdrawal group was approximately 40% higher, than that of the standard dose cyclosporine group.

Cyclosporine and Mycophenolate:

Cyclosporine inhibits multidrug-resistance-associated protein 2 (MRP-2) transporter in the biliary tract, thereby preventing the excretion of MPAG into the bile that would lead to enterohepatic recirculation of MPA [see Drug Interactions (7.5)].

Nonsteroidal and Metronidazole:

Following single-dose administration of MMF (1 mg) to 11 healthy volunteers on day 4 of a 5-day course of a combination of nonsteroidal anti-inflammatories, the mean MPA AUC_{0-12h} was reduced by 33% compared to the administration of MMF alone (p<0.05). There was no significant effect on mean MPA AUC_{0-12h} when MMF was concomitantly administered with nonsteroidal anti-inflammatories separately. The mean (±SD) MPA AUC_{0-12h} after coadministration of MMF with nonsteroidal anti-inflammatories separately was 6.3 (±2.4) mg·h/mL, and 6.7 (±2.3) mg·h/mL, respectively, compared with 5.6 (±2.4) mg·h/mL after administration of MMF alone [see Drug Interactions (7.6)].

Ritampin:

In a single heart-lung transplant patient on MMF therapy (1 gram twice daily), a 67% decrease in MPA exposure (AUC_{0-12h}) was observed with concomitant administration of MMF and 600 mg ritampin daily.

In 8 kidney transplant patients on stable MMF therapy (1 gram twice daily), administration of 300 mg ritampin twice daily resulted in a 17.5% decrease in MPA AUC_{0-12h} due to inhibition of enterohepatic recirculation of MPAG by ritampin. Ritampin coadministration also resulted in a 22.4% increase in MPAG AUC_{0-12h} [see Drug Interactions (7.7)].

Oral Contraceptives:

In a drug-drug interaction trial, mean AUCs were similar for ethinyl estradiol and norethindrone, when coadministered with MMF as compared to administration of the oral contraceptives alone [see Drug Interactions (7.8)].

Acyclovir:

Coadministration of MMF (1 gram) and acyclovir (800 mg) to 12 healthy volunteers resulted in no significant change in MPA AUC and C_{max} . However, MPAG and acyclovir plasma concentrations are increased in the presence of kidney impairment, as are acyclovir concentrations, the potential is for increased acyclovir and acyclovir by-products (e.g., valacyclovir) to compete for tubular secretion, further increasing the concentrations of both drugs [see Drug Interactions (7.9)].

Ganciclovir:

Following single-dose administration to 12 stable kidney transplant patients, no pharmacokinetic interaction was observed between MMF (1.5 grams) and intravenous ganciclovir (5 mg per kg). Mean (±SD) acyclovir AUC and C_{max} (n=10) were 54.3 (±19.0) mg·h/mL and 11.5 (±1.8) mg/mL, respectively, after coadministration of the two drugs, compared to 51.0 (±17.0) mg·h/mL and 10.6 (±2.0) mg/mL, respectively, after administration of intravenous ganciclovir alone. The mean (±SD) AUC and C_{max} of MPA (n=12) after coadministration were 80.9 (±21.6) mg·h/mL and 27.8 (±13.9) mg/mL, respectively, compared to values of 80.3 (±16.4) mg·h/mL and 30.9 (±11.2) mg/mL, respectively, after administration of MMF alone.

Because MPAG plasma concentrations are increased in the presence of renal impairment, as are ganciclovir concentrations, the two drugs will compete for tubular secretion and thus further increases in concentrations of both drugs may occur. In patients with renal impairment in which MMF and ganciclovir or its prodrug (e.g., valacyclovir) are coadministered, patients should be monitored carefully [see Drug Interactions (7.9)].

Ciprofloxacin and Amoxicillin plus Clavulanic Acid:

A total of 54 MMF treated kidney transplant recipients received either oral ciprofloxacin 500 mg twice daily or amoxicillin plus clavulanic acid 375 mg three times daily for 7 at least 14 days. Approximately 50% reductions in median trough MPA concentrations (predose) from baseline (MMF alone) were observed in 3 days following commencement of oral ciprofloxacin or amoxicillin plus clavulanic acid. These reductions in trough MPA concentrations tended to diminish within 4 days of antibiotic therapy and ceased within 3 days after discontinuation of antibiotics. The postulated mechanism for this interaction is an antibiotic-induced reduction in glucuronidase-processing enteric organisms leading to a decrease in enterohepatic recirculation of MPA. The change in trough level may not accurately represent changes in overall MPA exposure; therefore, clinical relevance of these observations is unclear [see Drug Interactions (7.10)].

13 NONCLINICAL TOXICOLOGY

13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility

In a 104-week oral carcinogenicity study in rats, mycophenolate sodium was not tumorigenic at daily doses up to 9 mg per kg, the highest dose tested. This dose resulted in approximately 0.6 to 1.2 times the systemic exposure (based on plasma AUC) observed in renal transplant patients at the recommended dose of 1440 mg per day. Similar results were observed in a parallel study in rats performed with MMF. In a 104-week oral carcinogenicity study in mice, MMF was not tumorigenic at a daily dose level as high as 180 mg per kg (which corresponds to 0.6 times the recommended mycophenolate sodium therapeutic dose, based on body surface area).

The genotoxic potential of mycophenolate sodium was determined in five assays. Mycophenolate sodium was genotoxic in the mouse lymphoma/thymidine kinase assay, the micronucleus test in V79 Chinese hamster cells, and the *in vivo* mouse micronucleus assay. Mycophenolate sodium was not genotoxic in the bacterial mutagenesis assay (Salmonella typhimurium TA 1535, 97a, 98, 100, and 102) or the chromosomal aberration assay in human lymphocytes.

Mycophenolate mofetil generated similar genotoxic activity. The genotoxic activity of mycophenolic acid (MPA) is probably due to the depletion of the nucleotide pool required for DNA synthesis as a result of the pharmacodynamic mode of action of MPA (inhibition of nucleotide synthesis).

Mycophenolate sodium had no effect on male rat fertility at daily oral doses as high as 18 mg per kg and exhibited no testicular or spermatogenic effects at daily oral doses of 20 mg per kg for 13 weeks (approximately 2 times the systemic exposure of MPA at the recommended therapeutic dose). No effects on female fertility were seen up to a daily dose of 20 mg per kg (approximately 3 times the systemic exposure of MPA at the recommended therapeutic dose).

14 CLINICAL STUDIES

14.1 Prophylaxis of Organ Rejection in Patients Receiving Allogeneic Renal Transplants

The safety and efficacy of mycophenolic acid delayed-release tablets in combination with cyclosporine, USP MODIFIED and corticosteroids for the prevention of organ rejection was assessed in two multicenter, randomized, double-blind, active-controlled trials in *de novo* and conversion renal transplant patients compared to MMF.

The *de novo* trial was conducted in 423 renal transplant patients (ages 18-75 years) in Austria, Canada, Germany, Hungary, Italy, Norway, Spain, UK, and USA. Eighty-four percent of randomized patients received kidneys from deceased donors. Patients were excluded if they had second or multigran (e.g., kidney and pancreas) transplants, or previous transplant with any other organs; kidneys from non-heart beating donors; panel reactive antibodies (PRA) of >50% at last assessment prior to transplantation, and presence of severe diarrhea, active peptic ulcer disease, or uncontrolled diabetes mellitus. Patients were administered either mycophenolic acid delayed-release tablets 1.44 grams per day or MMF 2 grams per day within 48 hours post-transplant for 12 months in combination with cyclosporine, USP MODIFIED and corticosteroids. Forty-one percent of patients received antibody therapy as induction treatment. Treatment failure was defined as the first occurrence of biopsy proven acute rejection, graft loss, death or lost to follow-up at 6 months.

The incidence of treatment failure was similar in mycophenolic acid delayed-release tablets and MMF-treated patients at 6 and 12 months (Table 7). The cumulative incidence of graft loss, death and lost to follow-up at 12 months is also shown in Table 7.

Table 7: Treatment Failure in *de novo* Renal Transplant Patients (Percent of Patients) at 6 and 12 Months of Treatment when Administered in Combination with Cyclosporine and Corticosteroids**

	Mycophenolic Acid Delayed-Release tablets 1.44 grams per day (n=213)		Mycophenolate mofetil (MMF) 2 grams per day (n=210)	
	n (%)	n (%)	n (%)	n (%)
6 Months				
Treatment failure*	55 (25.8)	55 (26.2)		
Biopsy-proven acute rejection	46 (21.6)	48 (22.9)		
Graft loss	7 (3.3)	9 (4.3)		
Death	1 (0.5)	2 (1.0)		
Lost to follow-up**	3 (1.4)	0		
12 Months				
Treatment failure*	61 (28.6)	59 (28.1)		
Biopsy-proven acute rejection	48 (22.5)	51 (24.3)		
Graft loss	9 (4.2)	9 (4.3)		
Death	2 (0.9)	5 (2.4)		
Lost to follow-up**	5 (2.3)	0		

*USP MODIFIED
**Lost to follow-up indicates patients who were lost to follow-up without prior biopsy-proven acute rejection, graft loss or death

***Lost to follow-up indicates patients who were lost to follow-up without prior graft loss or death (Mycophenolic acid patients and 4 MMF patients)

*95% confidence interval of the difference in treatment failure at 6 months (mycophenolic acid-MMF) is (-8.7%, 8.0%).

*95% confidence interval of the difference in treatment failure at 12 months (mycophenolic acid-MMF) is (-8.0%, 9.1%).

The conversion trial was conducted in 322 renal transplant patients (ages 18-75 years), who were at least 6 months post-transplant and had undergone primary or secondary, deceased donor, living related, or unrelated donor kidney transplant, stable graft function (serum creatinine <2.3 mg/dL), no change in immunosuppressive regimen due to graft malfunction, and no known clinically significant physical and/or laboratory changes for at least 2 months prior to enrollment. Patients were excluded if they had 3 or more kidney transplants, multigran transplants (e.g., kidney and pancreas), previous organ transplants, evidence of graft rejection or who had been treated for acute rejection within 2 months prior to screening, clinically significant infections requiring continued therapy, presence of severe diarrhea, active peptic ulcer disease, or uncontrolled diabetes mellitus.

Patients received 2 grams per day MMF in combination with cyclosporine USP MODIFIED, with or without corticosteroids for at least two weeks prior to entry in the trial. Patients were randomized to mycophenolic acid delayed-release tablets 1.44 grams per day or MMF 2 grams per day for 12 months. The trial was conducted in Austria, Belgium, Canada, Germany, Italy, Spain, and USA. Treatment failure was defined as the first occurrence of biopsy-proven acute rejection, graft loss, death, or lost to follow-up at 6 and 12 months.

The incidences of treatment failure at 6 and 12 months were similar between mycophenolic acid delayed-release tablets and MMF-treated patients (Table 8). The cumulative incidence of graft loss, death and lost to follow-up at 12 months is also shown in Table 8.

Table 8: Treatment Failure in Conversion Transplant Patients (Percent of Patients) at 6 and 12 Months of Treatment when Administered in Combination with Cyclosporine and with or without Corticosteroids**

	Mycophenolic Acid Delayed-Release tablets 1.44 grams per day (n=159)		Mycophenolate mofetil (MMF) 2 grams per day (n=153)	
	n (%)	n (%)	n (%)	n (%)
6 Months				
Treatment failure*	7 (4.4)	8 (5.2)		
Biopsy-proven acute rejection	2 (1.3)	2 (1.2)		
Graft loss	0	1 (0.6)		
Death	0	1 (0.6)		
Lost to follow-up**	5 (3.1)	7 (4.5)		
12 Months				
Treatment failure*	10 (6.3)	17 (10.4)		
Biopsy-proven acute rejection	2 (1.3)	5 (3.1)		
Graft loss	0	1 (0.6)		
Death	2 (1.3)	4 (2.5)		
Lost to follow-up**	8 (5.0)	10 (6.1)		

*USP MODIFIED
**Lost to follow-up indicates patients who were lost to follow-up without prior biopsy-proven acute rejection, graft loss, or death

***Lost to follow-up indicates patients who were lost to follow-up without prior graft loss or death (Mycophenolic acid patients and 12 MMF patients)

*95% confidence interval of the difference in treatment failure at 6 months (mycophenolic acid-MMF) is (-3.7%, 2.7%).

*95% confidence interval of the difference in treatment failure at 12 months (mycophenolic acid-MMF) is (-11.2%, 1.8%).

16 HOW SUPPLIED, STORAGE AND HANDLING

360 mg tablet: Pink to light pink colored, enteric coated, ovaloid biconvex tablet, debossed with "C2" on one side and plain on other side, containing 360 mg mycophenolic acid (MPA) as mycophenolate sodium.

Bottles of 120 with child resistance closure, NDC 70748-218-16

180 mg tablet: Lime green colored, enteric coated, round biconvex tablet, debossed with "C1" on one side and plain on other side, containing 180 mg mycophenolic acid (MPA) as mycophenolate sodium.

Bottles of 120 with child resistance closure, NDC 70748-217-16

Storage

Store at 25°C (77°F); excursions permitted to 15-30°C (59-86°F) [see USP Controlled Room Temperature]. Protect from moisture. Dispense in a light container (USP).

Handling

Keep out of reach and sight of children. Mycophenolic acid delayed-release tablets should not be crushed or cut in order to maintain the integrity of the enteric coating [see Dosage and Administration (2.3)].

Teratogenic effects have been observed with mycophenolate sodium [see Warnings and Precautions (5.7)]. If, for any reason, the mycophenolic acid delayed-release tablets should be crushed, avoid inhalation of the powder, or direct contact of the powder, with skin or mucous membranes.

17 PATIENT COUNSELING INFORMATION

See FDA-approved patient labeling (Medication Guide)

Embryofetal Toxicity