



during treatment.

Please see page 2 for more information on liver injury.

# HELPING PATIENTS WITH PFIC...

## rise above cholestatic pruritus (itch)

Finding out that your child has progressive familial intrahepatic cholestasis (PFIC) can be hard. Finding ways to manage the condition can be even harder.

This brochure will explain an FDA-approved medication that targets one of the underlying causes of liver-related problems in PFIC.



If you care for a child 12 months of age or older with PFIC, check out page 26 of this brochure for ways to talk to your child about LIVMARLI.

### **IMPORTANT SAFETY INFORMATION** (cont'd)

### What are the possible side effects of LIVMARLI (maralixibat) oral solution and tablets?

These changes may be a sign of liver injury and can be serious or may lead to liver transplant or death. Your health care provider should do blood tests and physical exams before starting and during treatment with LIVMARLI to check your liver function. Tell your health care provider right away if you get any signs or symptoms of liver problems, including:

- nausea or vomiting
- your skin or the white part of your eye turns yellow
- dark or brown urine
- pain on the right side of your stomach (abdomen)
- fullness, bloating, or fluid in your stomach area (ascites)
- loss of appetite
- bleeding or bruising more easily than normal, including vomiting blood





## WHAT CAN YOU FIND IN THIS BROCHURE?

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- Cholestatic pruritus (itch) is more than just scratching
- The need for effective treatment
- LIVMARLI for cholestatic pruritus in PFIC
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### **IMPORTANT SAFETY INFORMATION (cont'd)**

What are the possible side effects of LIVMARLI (maralixibat) oral solution and tablets?

• Stomach and intestinal (gastrointestinal) problems. LIVMARLI can cause stomach and intestinal problems, including diarrhea and stomach pain during treatment. Diarrhea can also cause the loss of too much body fluid (severe dehydration). Your health care provider may advise you to monitor for new or worsening stomach problems, including stomach pain, diarrhea, blood in your stool, or vomiting



## WHAT IS PFIC?

Progressive familial intrahepatic cholestasis (PFIC) is a group of rare, inherited diseases that mostly affects the liver.

There are 3 main types of PFIC and several other, rarer types. These are all called subtypes. The 2 most common subtypes are PFIC2 and PFIC3.

### The 3 main types of PFIC:

PFIC1

is caused by **changes to a protein in the liver called familial intrahepatic cholestasis associated protein 1 (FIC1)**.

PFIC1 is not very common

PFIC2

refers to changes to a protein in the liver called the bile salt export pump (BSEP).
PFIC2 is the most common type and makes up approximately half of all cases

PFIC3

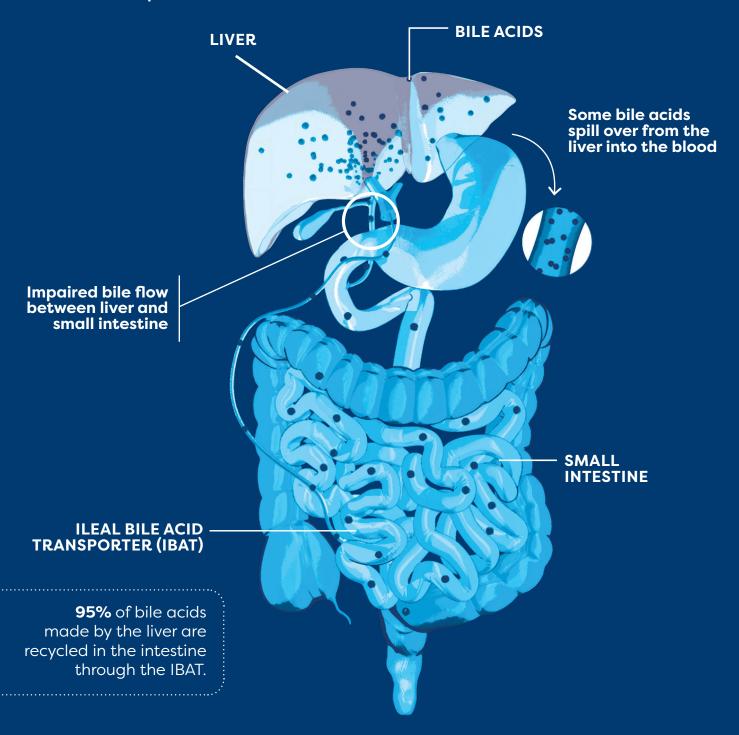
results from **changes to a protein in the liver called multidrug resistance class III (MDR3)**. PFIC3 makes up **approximately one-third** of all cases



## **WHAT IS PFIC?**

### How does PFIC affect the liver?

The liver makes a fluid called bile that helps with the digestion of fats. Bile acids, which are a part of bile, are made by the liver cells. In PFIC, bile acids get stuck inside the cells. **Over time**, bile acids build up in the liver and blood.





## WHAT ARE THE EFFECTS OF BILE ACID BUILDUP?

When bile acids build up in the liver, they spill over into the bloodstream. This can cause an increase in bile acids throughout the entire body.

These **high levels of bile acids are a contributing factor to cholestatic pruritus (itch)** in progressive familial intrahepatic cholestasis (PFIC).

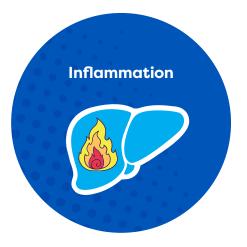
Cholestatic pruritus affects



of people with PFIC and is also the most burdensome symptom

### The scratching is a signal

Over time, the buildup of bile acids in the liver can lead to long-term problems, including:









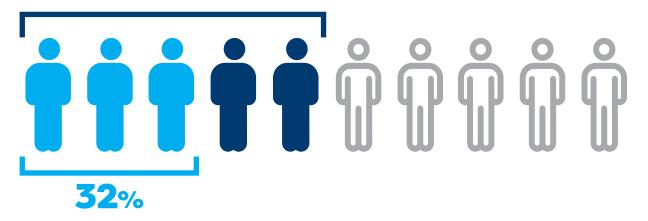
## WHAT ARE THE EFFECTS OF BILE ACID BUILDUP?

### Impact to the liver

Bile acid buildup causes immediate problems (cholestatic pruritus, or itch) and has long-term impacts (liver problems).

### Research has shown that approximately

of patients with PFIC1 or PFIC2 still have their own liver by age 10.



In PFIC2, specifically, only 32% of patients still have their own liver by age 18.

## CHOLESTATIC PRURITUS (ITCH) IS MORE THAN JUST SCRATCHING

## Cholestatic pruritus is often a very challenging symptom for people with progressive familial intrahepatic cholestasis (PFIC).

Cholestatic pruritus is frequently first seen by **age 3 months in people with PFIC1 and PFIC2** and by **age 2 years to 3 years in people with PFIC3**.

Beyond the scratching, it can be difficult to navigate all aspects of cholestatic pruritus without the right support. Signs and symptoms related to cholestatic pruritus can look different during the day and/or night and vary for each person.

### The burden of cholestatic pruritus



of caregivers report that their child suffers from **sleep disturbances due to cholestatic pruritus**. Sleep disturbances include needing help falling asleep, needing soothing, and sleeping with a caregiver.

Additional signs and symptoms related to cholestatic pruritus can include:



Skin damage



Unable to focus



Potential negative impact on social activities



**Irritability** 



Worsened physical function



Worsened general health



Cognitive impact



Burning, tingling, or prickling sensation



## CHOLESTATIC PRURITUS (ITCH) IS MORE THAN JUST SCRATCHING



## TELL THE FULL STORY OF CHOLESTATIC PRURITUS

## Consider the following questions and be sure to share your answers with your doctor:

- Do you notice rubbing and/or scratching?
- · Have you noticed any changes in mood or irritability?
- Have there been problems with falling asleep or staying asleep?
- Does feeling itchy impact daily life (for example: unable to focus in school, can't participate in activities, etc)?
- Has there been frequent scratching or biting of the skin?
   Has it caused damage to the skin?



Treat an Underlying Cause of Cholestatic Pruritus (Itch)

## THE NEED FOR EFFECTIVE TREATMENT



## Cholestatic pruritus impacts more people than you may think

Cholestatic pruritus affects **76% to 100%** of people with progressive familial intrahepatic cholestasis (PFIC) and is the most burdensome symptom.



### More options to treat cholestatic pruritus

Treatment options for cholestatic pruritus in PFIC have been limited. In cases where cholestatic pruritus is unmanageable, many people still choose to have surgery and/or a liver transplant.



In a study of 38 pediatric patients with PFIC who underwent surgery, **92% were motivated by cholestatic pruritus**.



In another study, end-stage liver disease was the most common reason for liver transplant in pediatric patients with PFIC.

Persistent cholestatic pruritus was the second most common reason.



Learn about a treatment option to help relieve cholestatic pruritus in PFIC.

### **IMPORTANT SAFETY INFORMATION (cont'd)**

What are the possible side effects of LIVMARLI (maralixibat) oral solution and tablets?

Tell your health care provider right away if you have any new or worsening signs or symptoms of stomach and intestinal problems, including:

- diarrhea
- more frequent bowel movements than usual
- stools that are black, tarry, or sticky, or have blood or mucous
- severe stomach-area pain or tenderness
- vomiting
- urinating less often than usual
- dizziness
- headache





### LIVMARLI FOR CHOLESTATIC PRURITUS (ITCH) IN PFIC

LIVMARLI is an FDA-approved treatment for cholestatic pruritus in patients with PFIC who are 12 months of age and older. LIVMARLI helps lower bile acid buildup and relieve cholestatic pruritus.

### The Broadest Population of PFIC Subtypes Studied\*

LIVMARLI has proven results across 5 PFIC subtypes.

LIVMARLI has a well-known safety profile in patients with cholestatic pruritus in PFIC.

\*LIVMARLI is not for use in patients with PFIC type 2 who have a severe defect in the bile salt export pump (BSEP) protein.



### **Early and Lasting Improvements in Cholestatic Pruritus**

Improvements in cholestatic pruritus were seen **as early as 2 weeks** after starting LIVMARLI and **continued through 2 years**.

**64% of patients experienced meaningful improvements in cholestatic pruritus** within the first 6 months of treatment with LIVMARLI.<sup>†</sup>

<sup>†</sup>Compared with 29% of those who received placebo.



### **Getting Started Is Easy**

Mirum Access Plus offers **resources**, **education**, **and services** to help you start and stay on LIVMARLI.

Get started by texting MIRUM to 47936, or call 1-855-MRM-4YOU (1-855-676-4968) Monday through Friday, 8:00 AM through 8:00 PM ET.

### **IMPORTANT SAFETY INFORMATION** (cont'd)

What are the possible side effects of LIVMARLI (maralixibat) oral solution and tablets?

• A condition called Fat-Soluble Vitamin (FSV) Deficiency caused by low levels of certain vitamins (vitamin A, D, E, and K) stored in body fat. FSV deficiency is common in patients with PFIC but may worsen during treatment. Your health care provider should do blood tests before starting and during treatment, and may monitor for bone fractures and bleeding, which are common side effects



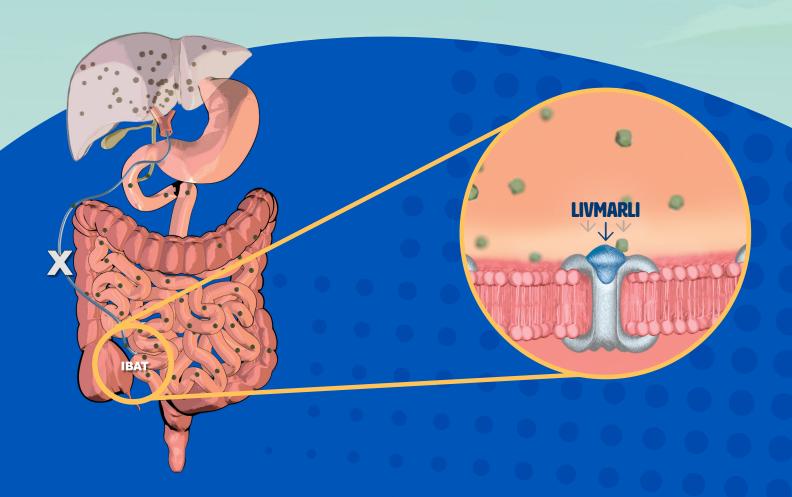


**Rise Above Cholestatic Pruritus (Itch)** 

## **HOW DOES LIVMARLI WORK?**

LIVMARLI **targets and temporarily blocks** something in the body called the ileal bile acid transporter, or IBAT. In doing so, LIVMARLI **lowers bile acids in the body** (as measured by levels in the blood) by:

- Interrupting bile acids from going back into the liver
- Increasing the amount of bile acids that are removed from the body in feces



The way LIVMARLI improves cholestatic pruritus is not completely known. It may involve inhibition of the IBAT, which interrupts bile acid recycling to the liver and decreases serum bile acids.

### **IMPORTANT SAFETY INFORMATION** (cont'd)

What are the possible side effects of LIVMARLI (maralixibat) oral solution and tablets? Tell your health care provider about all medicines that you take, as LIVMARLI may interact with other medicines. If you take a medicine that lowers cholesterol by binding bile acids, such as cholestyramine, colesevelam, or colestipol, take LIVMARLI at least 4 hours before or 4 hours after you take that medicine.



Improvements in Cholestatic Pruritus (Itch)

## **MORE RELIEF WITH LIVMARLI**

The goal of LIVMARLI is to provide fast and lasting relief from cholestatic pruritus.

### How cholestatic pruritus was assessed

Patients with progressive familial intrahepatic cholestasis (PFIC) were treated with either LIVMARLI or placebo in a 6-month clinical study.

• Placebo looked and tasted like a "real" treatment, but did not have any active medicine

The purpose of the study was to see if treatment with LIVMARLI reduced bile acid buildup and improved cholestatic pruritus.

Patients in the study were split into multiple cohorts, or groups:





Included patients with PFIC2 as well as patients with PFIC1, PFIC3, PFIC4, or PFIC6

Other patients with less common or more variable forms of PFIC were also studied.

Patients also had the option to continue taking LIVMARLI for up to 2 years as part of a long-term study.

### **IMPORTANT SAFETY INFORMATION** (cont'd)

What are the possible side effects of LIVMARLI (maralixibat) oral solution and tablets?

Your health care provider may change your dose, or temporarily or permanently stop treatment with LIVMARLI if you have certain side effects.





Itch Reported Outcome (ItchRO) Tool

## HOW CHOLESTATIC PRURITUS (ITCH) WAS ASSESSED

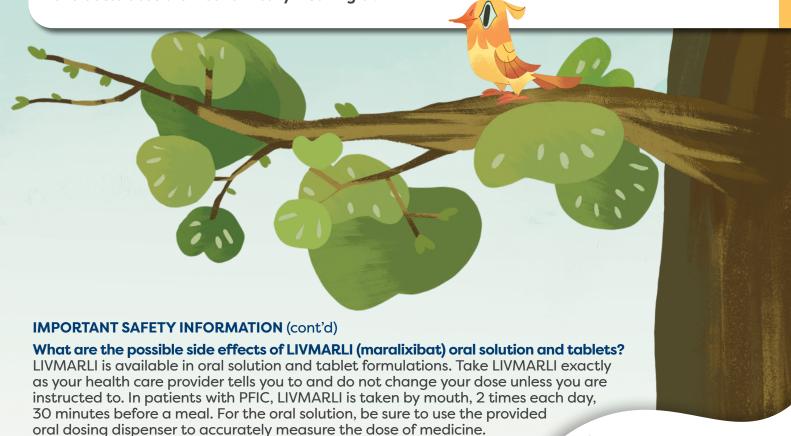


### The ItchRO tool

In the clinical study, patients kept an ongoing log of their cholestatic pruritus using the Itch Reported Outcome (ItchRO) tool. **This tool was used to measure cholestatic pruritus severity over time based on a 5-point scale**:



Changes in ItchRO score by 1 point or more represent noticeable differences in cholestatic pruritus and doctors see them as "clinically meaningful."







## EARLY IMPROVEMENTS IN CHOLESTATIC PRURITUS (ITCH)

Improvements in cholestatic pruritus were seen as early as 2 weeks and continued throughout treatment with LIVMARLI in both the PFIC2 group and the All-PFIC group.

### **PFIC2 group**

During the first 6 months of treatment, patients taking LIVMARLI in the PFIC2 group saw significant improvements in cholestatic pruritus compared with those who took placebo.

### **All-PFIC group**



IMPROVEMENTS IN CHOLESTATIC PRURITUS

During the 6 months of treatment with LIVMARLI, 64% of those in the All-PFIC group experienced noticeable improvements in cholestatic pruritus vs 29% of those receiving placebo.



62%
LITTLE OR NO
CHOLESTATIC PRURITUS

In the first 6 months of treatment, 62% of patients treated with LIVMARLI had significantly more days with little or no cholestatic pruritus (had an Itch Reported Outcome [ItchRO] score of 0 or 1) compared with 28% of patients who received placebo.



IMPROVEMENTS IN SBA LEVELS

Those taking LIVMARLI in the AII-PFIC group also saw significantly greater improvements in serum bile acid (sBA) levels than those who took placebo.

50% of patients taking LIVMARLI had their sBA levels reduced by more than 75% or had their sBA decrease to below 102 µmol/L, compared with 7% of patients taking placebo.



### **Lasting results**

Those who stayed on LIVMARLI in the long-term study felt **relief from cholestatic pruritus through 2 years**.

### **IMPORTANT SAFETY INFORMATION** (cont'd)

What are the possible side effects of LIVMARLI (maralixibat) oral solution and tablets?

These are not all of the possible side effects of LIVMARLI. For more information, ask your health care provider or pharmacist. Call your doctor for medical advice about side effects. You may report side effects to the FDA at 1-800-FDA-1088.





## **HOW IS LIVMARLI TAKEN?**

LIVMARLI is the only IBAT inhibitor available as a tablet or a liquid (oral solution) medicine.

Both LIVMARLI tablets and liquid medicine are taken by mouth.

### **LIVMARLI liquid medicine**

Take directly from the measuring device delivered with your medicine.



LIVMARLI bottle and measuring device not actual size.

### **LIVMARLI** tablets

Tablets come in 4 fixed doses:











10 mg

15 mg 20 mg

30 mg

Tablets and dime not actual size.

Dime shown for scale.

### **ONE DOSE, TWICE PER DAY**

Both LIVMARLI liquid medicine and tablets should be taken twice daily at the dosage prescribed by your doctor. Take LIVMARLI 30 minutes before a meal

### **Dosing information:**

- Your doctor will prescribe the right dose of LIVMARLI for you
- Dosing for LIVMARLI is based on weight. Never change the amount of LIVMARLI without first talking to your doctor
- People who take LIVMARLI liquid medicine will take 2 mL or less per day—about half a teaspoon!

### What happens if a dose is missed?

**If you miss a dose within 6 hours** of the time you normally take it, take LIVMARLI as soon as possible. **If a dose is missed by more than 6 hours**, skip the dose and continue your original dosing schedule throughout the day.

### **IMPORTANT SAFETY INFORMATION** (cont'd)

What are the possible side effects of LIVMARLI (maralixibat) oral solution and tablets?

LIVMARLI can cause serious side effects, including:

• Liver injury. Changes in certain liver tests are common in patients but may worsen during treatment with LIVMARLI. These changes may be a sign of liver injury and can be serious. Your health care provider should do blood tests and physical exams before starting and during treatment to check your liver function.

Tell your health care provider right away if you get any signs or symptoms of liver problems, including:

- nausea or vomiting
- your skin or the white part of your eye turns yellow
- dark or brown urine
- pain on the right side of your stomach (abdomen)
- fullness, bloating, or fluid in your stomach area (ascites)
- loss of appetite
- bleeding or bruising more easily than normal, including vomiting blood





**Always Safety First!** 

## WHAT ARE THE POSSIBLE SIDE EFFECTS OF LIVMARLI?

LIVMARLI may cause side effects. Talk to your or your child's doctor about what to expect and how to manage any side effects.

### **Common side effects**

The most common side effects with LIVMARLI include:

- Diarrhea
- Abdominal pain
- Liver test abnormalities
- Other common side effects include rectal bleeding and bone fractures

Your doctor may change your dose or temporarily or permanently stop treatment with LIVMARLI if you have certain side effects. These are not the only possible side effects of LIVMARLI. Call your doctor for medical advice about side effects. You may report side effects to the FDA at 1-800-FDA-1088.





Livmarli® (maralixibat)

## TIPS FOR CERTAIN SIDE EFFECTS



## What steps can be taken if side effects occur?

As always, if you're experiencing side effects when taking LIVMARLI, or if your symptoms worsen, contact your doctor or health care team. You may want to share whether you were experiencing these symptoms before starting treatment, and if so, make note of how they've changed now that you're taking LIVMARLI.

## If you do experience side effects with LIVMARLI, your doctor may suggest taking these steps:

### **Diarrhea**



**DO** drink plenty of clear liquids, such as water, to prevent dehydration



**DO** eat foods that are gentle on your stomach. Many people find that dairy and/or concentrated sweets may worsen gastrointestinal symptoms



**DO NOT** exercise immediately after eating

### **Abdominal pain**



**DO** talk to your doctor for medical advice about abdominal pain



## **TIPS FOR CERTAIN SIDE EFFECTS**



## Should treatment with LIVMARLI stop if side effects occur?

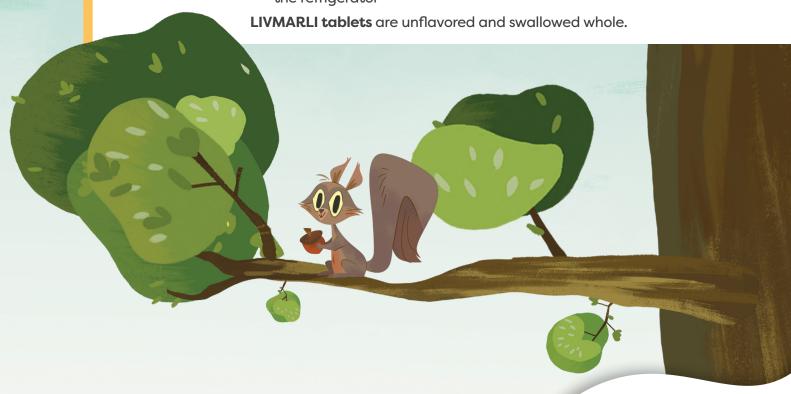
Your doctor might choose to pause treatment or reduce your LIVMARLI dose if you are experiencing certain side effects. If treatment is paused, your doctor may recommend restarting LIVMARLI at a lower dose and slowly increasing it until you can tolerate it. You should never adjust your dose without speaking to a health care provider.

### What does LIVMARLI taste like?

**LIVMARLI liquid (oral solution) medicine** is grape flavored.

If someone doesn't like taking liquid medicines, here are a couple of tips:

- Take the right aim. Use the measuring device that comes with LIVMARLI to squirt the medicine into the inside of the cheek
- Add a flavorful twist. Suck on fruit, such as an orange or lemon, before or after taking LIVMARLI
- Cool it. Once opened, consider storing your bottle of LIVMARLI in the refrigerator







### Mirum Access Plus



## Eligible patients may pay as little as \$10 out of pocket per fill for LIVMARLI\*

**Mirum Access Plus** is a support program that makes it easy for you to start and stay on LIVMARLI.

Once your doctor has sent your prescription to Mirum Access Plus, the dedicated team of experts will help you understand the process of getting your medication.

### Within Your Reach



### Insurance coverage assistance

Mirum Access Plus experts will work with you and your health care team to **figure out insurance coverage**.



## Refill reminders and support

Mirum Access Plus experts will contact you with **refill reminders** and assist you with any steps needed before shipping the refill.



## Coordinated delivery

Mirum Access Plus experts will conveniently ship your medication straight to your doorstep overnight when coverage is approved.



Get started by texting MIRUM to 47936 or calling us at 1-855-MRM-4YOU (1-855-676-4968)

\*Eligibility restrictions: The Mirum Access Plus Savings Program is not available to individuals who use any state or federal government-funded health care program to cover a portion of medication costs, such as Medicare, Medicaid, TRICARE, Department of Defense, or Veterans Administration, or any other state or federal government-funded health care program.



### Mirum Access Plus

### There's More to Mirum Access Plus

When you sign up, Mirum Access Plus offers an enhanced, personalized experience that's designed to help you start and stay on therapy with education and resources—at no cost to you.



#### Personalized conversations

Your Mirum Access Plus Navigator can provide support for both medication and overall wellness. Your phone conversations will be focused on your unique needs. Any details you share with your Mirum Access Plus Navigator will be confidential and kept in mind for your next call, so you can conveniently pick up where you left off.



### Ongoing support

After you receive your medication, your dedicated Mirum Access Plus Navigator will work through any changes with you and help you stay on track with ongoing assistance for as long as you remain on treatment, in the manner most convenient to you.

Do you have questions about Mirum Access Plus?

Visit <u>LIVMARLI.com</u> or contact us at 1-855-MRM-4YOU (1-855-676-4968). We are available Monday to Friday, from 8:00 AM to 8:00 PM ET.



## Meet Your Mirum Access Plus Team



#### **NAVIGATOR**

A Navigator is your main point of contact for Mirum Access Plus. Navigators are available to answer your questions and provide helpful resources.



#### COORDINATOR

A Coordinator is an expert in the insurance coverage process. They will help you explore available financial support options.



Our goal is to provide information about our program and the medication prior to the patient receiving it in hopes that they will feel knowledgeable and supported.

-Mirum Access Plus Navigator





### Finding Support

### What other resources are available?

As a patient or caregiver, you have a lot to manage. The **Mirum Access Plus team is here to help** you along the way. Together, your Navigator and Coordinator are focused on being there for you by delivering simple and flexible support.



### **PFIC Network**

PFIC Network is a nonprofit organization that strives to improve the lives of patients and families affected by progressive familial intrahepatic cholestasis (PFIC) worldwide. They value and provide connection, education, and support to the PFIC community. You're not alone in this journey.

### Get involved with the PFIC Network:

- Join the Patient Registry
- Share your own story
- Connect with other members of the community
- Become a mentor for peers with PFIC
- Volunteer on an advocacy committee

Learn more at <a href="PFIC.org">PFIC.org</a>



## **TALKING TO YOUR CHILD ABOUT LIVMARLI**

If you care for a young child with progressive familial intrahepatic cholestasis (PFIC), they may have questions. Here are some suggestions for how to talk to your child about LIVMARLI.



### What makes my liver different?

When you have PFIC, bile acids can get stuck inside your liver. Over time, the amount of bile acids in your body can get too high.



### How do I talk about my cholestatic pruritus (itch)?

It can be tricky learning how to talk about cholestatic pruritus. Think about any times or moments when you feel uncomfortable, itchy, or irritable. We can share this information with your doctor.



### Why might LIVMARLI be right for me?

Your itch can be hard to manage, but **LIVMARLI** was made to help you feel less itchy. Talk to your doctor to see if LIVMARLI is right for you.



### **IMPORTANT SAFETY INFORMATION** (cont'd)

What are the possible side effects of LIVMARLI (maralixibat) oral solution and tablets?

• Stomach and intestinal (gastrointestinal) problems. LIVMARLI can cause stomach and intestinal problems, including diarrhea and stomach pain during treatment. Diarrhea can also cause the loss of too much body fluid (severe dehydration). Your health care provider may advise you to monitor for new or worsening stomach problems, including stomach pain, diarrhea, blood in your stool, or vomiting



## TALKING TO YOUR CHILD ABOUT LIVMARLI





### What is LIVMARLI?

**LIVMARLI is a medicine** that goes into your body, finds what's making you feel itchy, and fights to help you feel less itchy.



### How has LIVMARLI helped kids like me?

LIVMARLI has helped other kids with PFIC who have bile acid buildup and feel itchy. After taking LIVMARLI, many kids were less itchy overall, with some days where they didn't feel itchy at all.



#### How do I take LIVMARLI?

It's easy to take LIVMARLI! LIVMARLI is prescribed as either a liquid medicine or a tablet that's taken **twice a day by mouth**.



### How will LIVMARLI make me feel?

LIVMARLI can help you feel less itchy. Some kids may get diarrhea or a bellyache after starting LIVMARLI, but it should go away within a week. We can let your doctor know how you're feeling. **Your doctor is here to help you.** 

#### **IMPORTANT SAFETY INFORMATION** (cont'd)

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Tell your health care provider right away if you have any new or worsening signs or symptoms of stomach and intestinal problems, including:

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- urinating less often than usual
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- headache





Rise above cholestatic pruritus (itch) to





## THE BROADEST POPULATION OF PFIC SUBTYPES STUDIED\*

LIVMARLI has proven results across 5 progressive familial intrahepatic cholestasis (PFIC) subtypes.

LIVMARLI has a **well-known safety profile** in patients with cholestatic pruritus in PFIC.

\*LIVMARLI is not for use in patients with PFIC type 2 who have a severe defect in the bile salt export pump (BSEP) protein.



## EARLY AND LASTING IMPROVEMENTS IN CHOLESTATIC PRURITUS

Improvements in cholestatic pruritus were seen as early as 2 weeks and continued through 2 years.

**64% of patients experienced meaningful improvements in cholestatic pruritus** within the first 6 months of treatment with LIVMARLI.<sup>†</sup>

<sup>†</sup>Compared with 29% of those who received placebo.



### **GETTING STARTED IS EASY**

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• A condition called Fat-Soluble Vitamin (FSV) Deficiency caused by low levels of certain vitamins (vitamin A, D, E, and K) stored in body fat.

FSV deficiency is common in patients with PFIC but may worsen during treatment. Your health care provider should do blood tests before starting and during treatment, and may monitor for bone fractures and bleeding, which are common side effects





