

THE LIVER AND CHOLESTATIC PRURITUS

How does progressive familial intrahepatic cholestasis (PFIC) affect the liver and cause cholestatic pruritus? (It's more than just itching!)

1

In PFIC, **bile acids**—a part of bile—get stuck inside the cells, which **keeps bile from properly flowing out of the liver**.

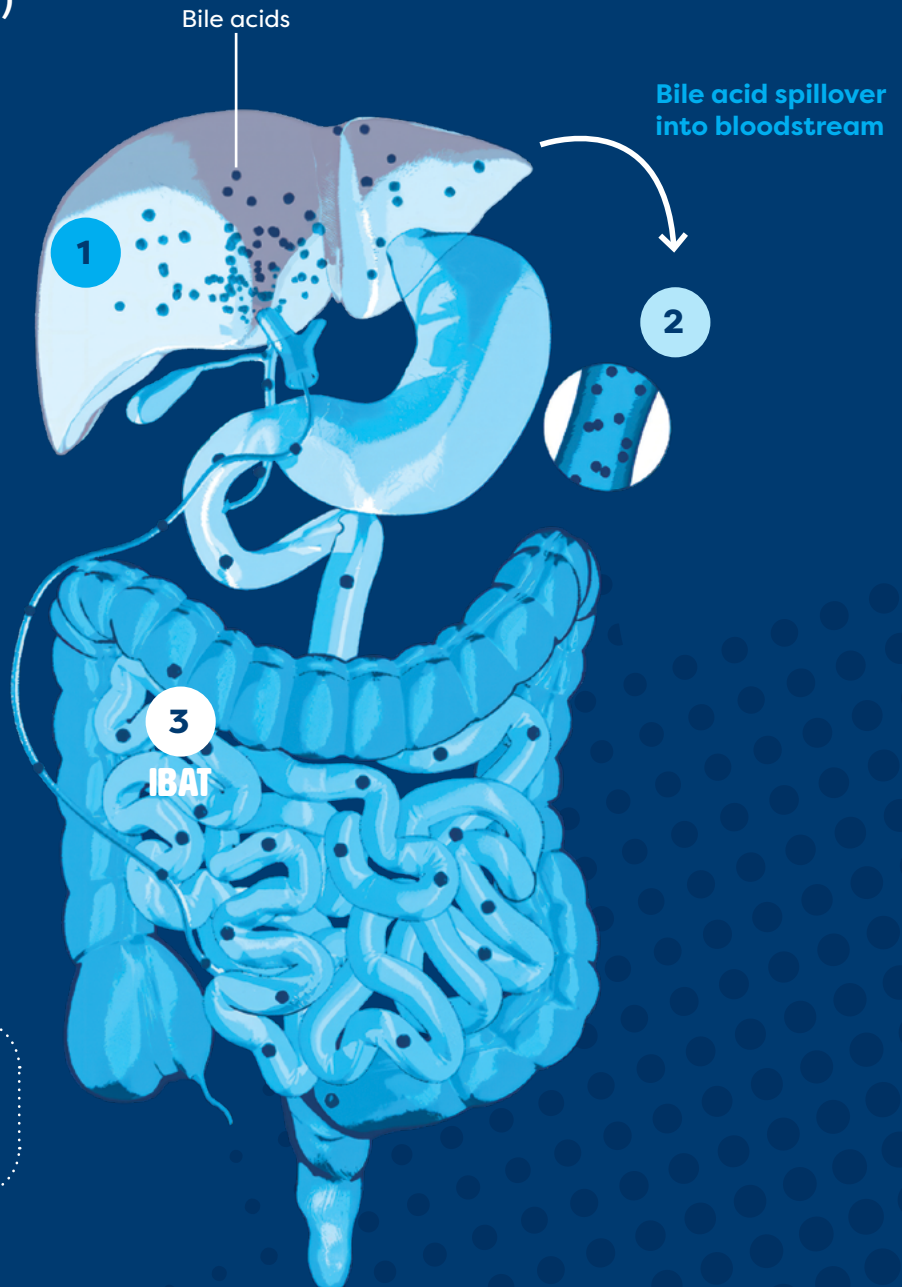
2

When bile is not properly flowing out of the liver, **bile acids build up in the liver and the blood**.

3

95% of bile acids made by the liver are **recycled in the intestine through the ileal bile acid transporter (IBAT) and go back to the liver**.

Bile acid buildup may cause **immediate problems (cholestatic pruritus)** and have **long-term impacts (liver problems)**.



READ ON TO
learn about a
treatment option



Livmarli[®]

(maralixibat) oral solution or tablets

LIVMARLI (maralixibat) oral solution and tablets are an **FDA-approved prescription medicine** used to treat cholestatic pruritus (itch) in patients 12 months of age and older with progressive familial intrahepatic cholestasis (PFIC).

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

It is not known if LIVMARLI is safe and effective in children with PFIC who are under 12 months of age. It is not known if LIVMARLI is safe and effective in adults who are 65 years of age and older.

RESULTS WITH LIVMARLI

Visit [LIVMARLI.com](https://www.livmarli.com) to explore clinical trial data.

IMPORTANT SAFETY INFORMATION

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 with PFIC but may worsen during treatment. 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.

Please see full [Prescribing Information](#), including [Patient Information](#) and [Instructions for Use](#), for LIVMARLI.

HOW DOES **LIVMARLI** WORK TO REDUCE CHOLESTATIC PRURITUS IN THE BODY?

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

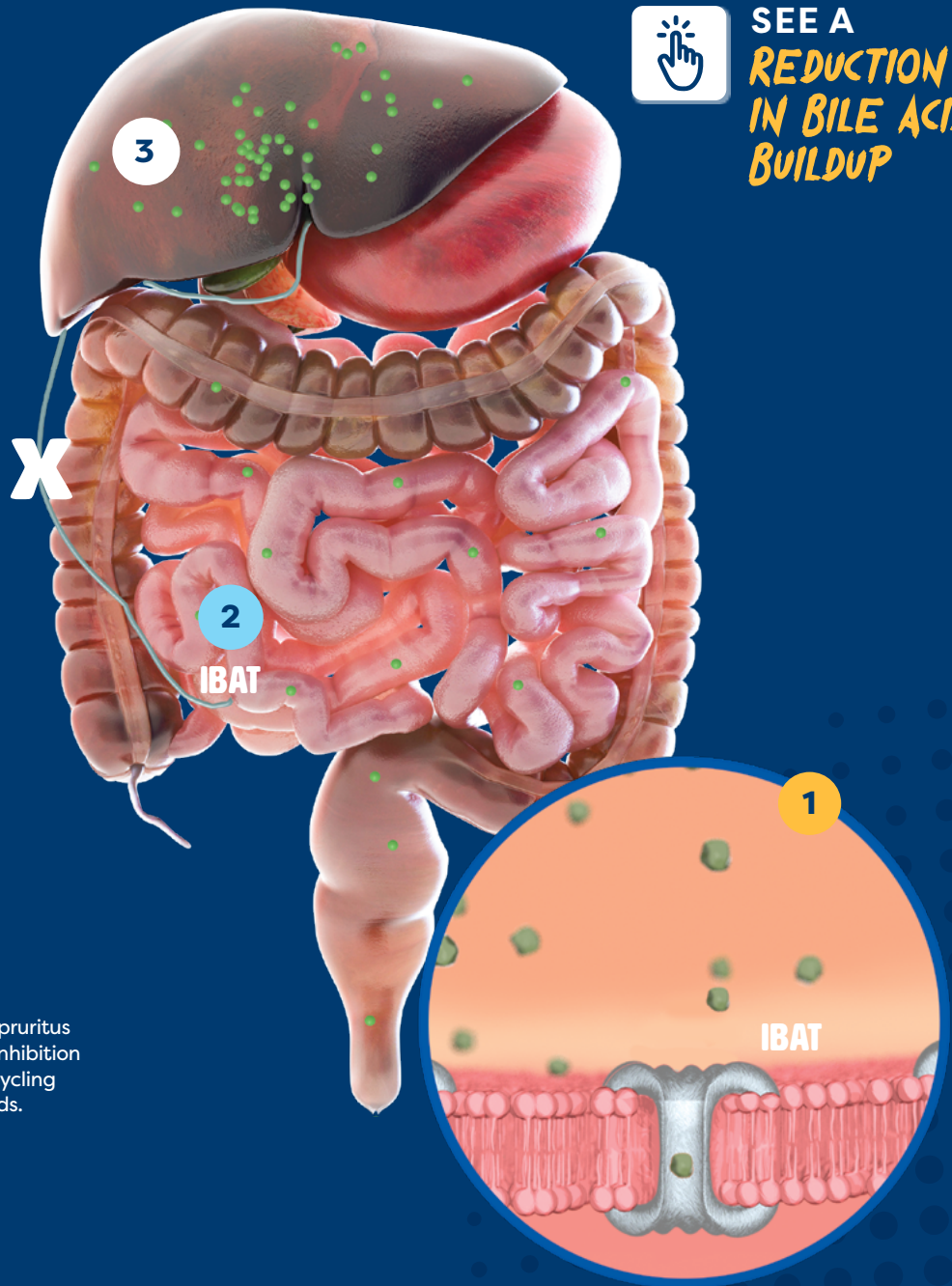
2

LIVMARLI blocks bile acids from going back into the liver and increases the amount of bile acids removed from the body in feces.

3

In the clinical study for **LIVMARLI**, reductions in bile acid buildup were associated with decreases in intensity of cholestatic pruritus.

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.



SEE A
REDUCTION
IN BILE ACID
BUILDUP



DISCOVER HOW
LIVMARLI TARGETS
THE **IBAT**

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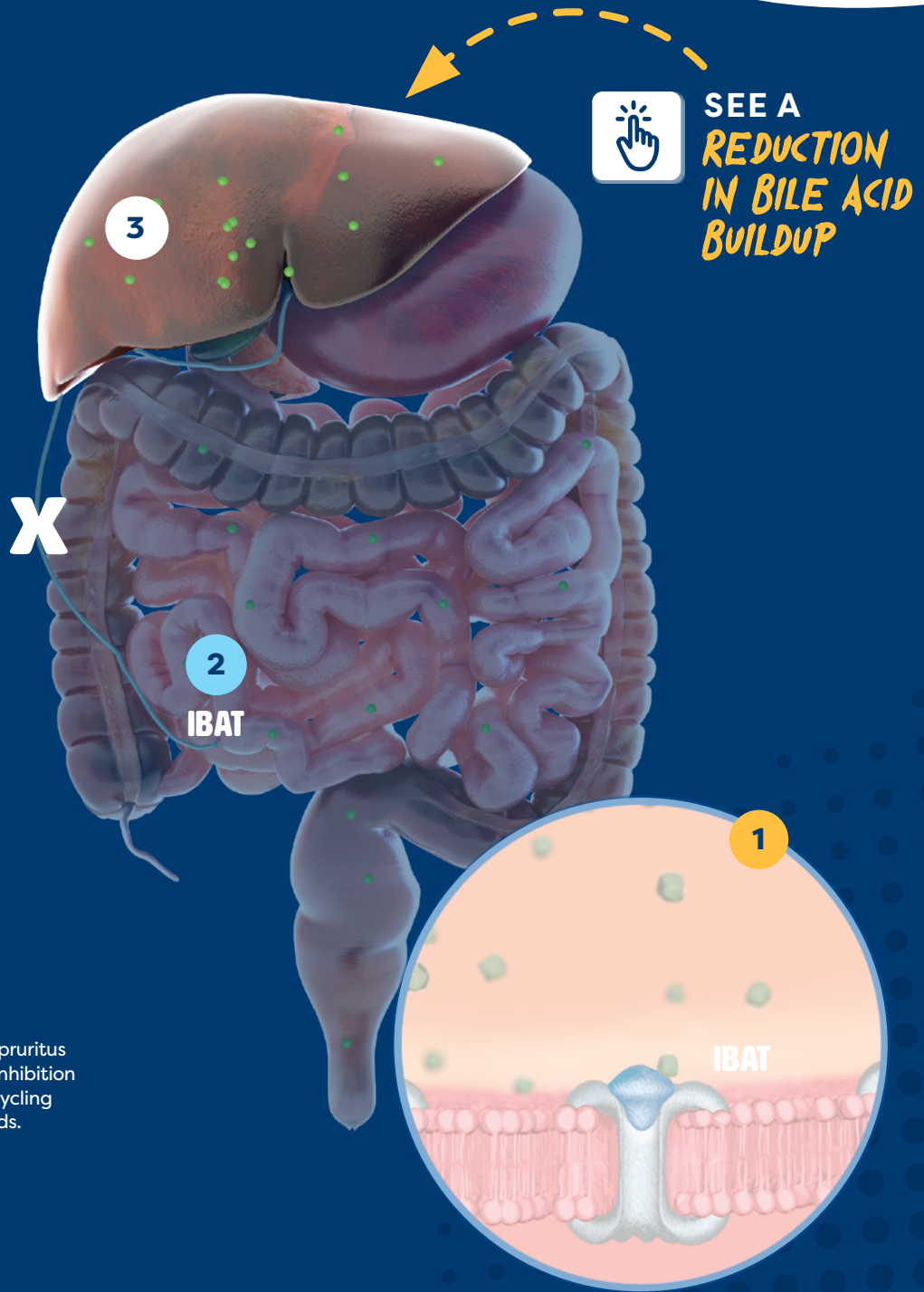
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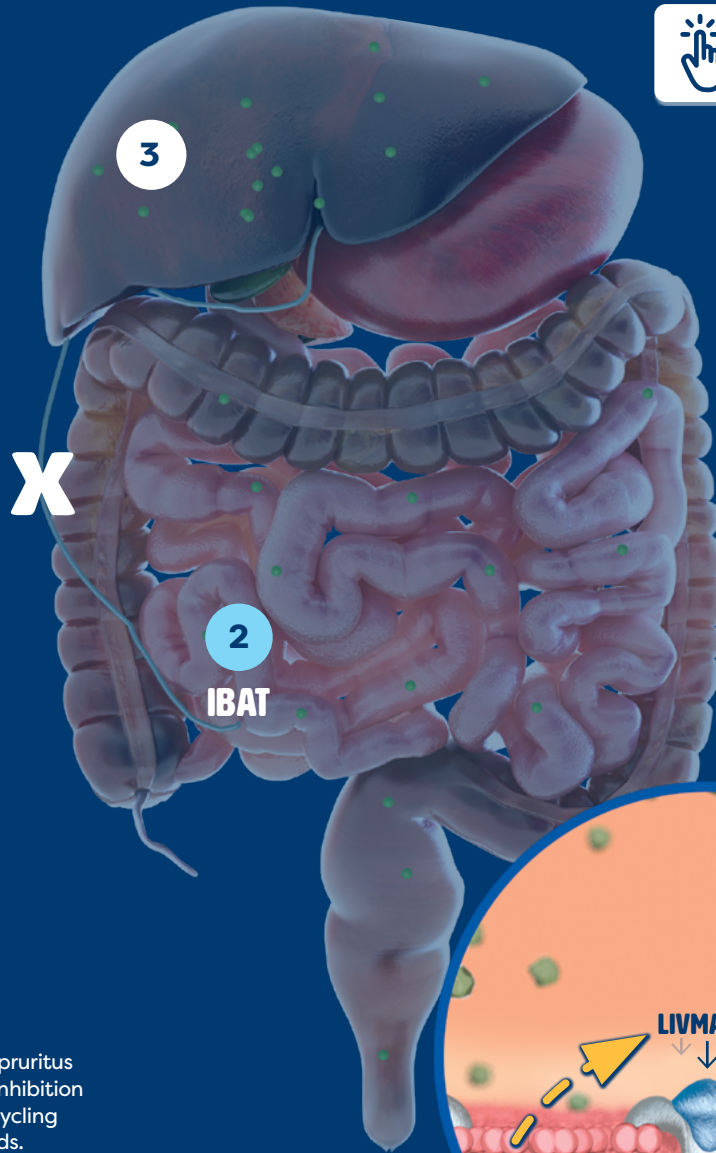
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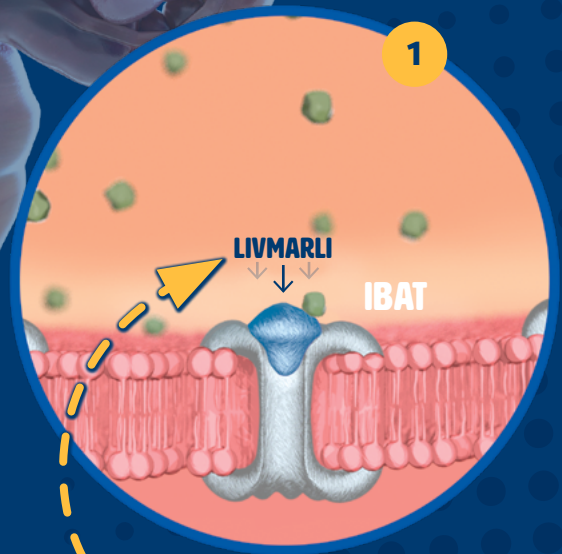
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2

IBAT

1



DISCOVER HOW
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During the first 6 months of treatment with LIVMARLI,

64% OF PATIENTS EXPERIENCED NOTICEABLE IMPROVEMENTS IN CHOLESTATIC PRURITUS.*

**Livmarli**[®]
(maralixibat) oral solution or tablets

*In the All-PFIC group vs 29% of those receiving placebo.



“I can honestly say that LIVMARLI has significantly improved my cholestatic pruritus.”

—Charmaine, real person living with PFIC

IMPORTANT SAFETY INFORMATION

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

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

• **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

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

• 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

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, colestevlam, or colestipol, take LIVMARLI at least 4 hours before or 4 hours after you take that medicine.

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

LIVMARLI is available in oral solution and tablet formulations. Take LIVMARLI exactly as your health care provider tells you to and do not change your dose unless you are instructed to. In patients with PFIC, LIVMARLI is taken by mouth, 2 times each day, 30 minutes before a meal. For the oral solution, be sure to use the provided oral dosing dispenser to accurately measure the dose of medicine.

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.

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