HEALTH BASICS

Para-aminobenzoic acid

Para-aminobenzoic acid is a compound found in some supplements, medicines, and older sunscreens.

WHAT IT IS
A small organic compound used by many bacteria

WHERE IT COMES UP
Supplement labels, older sunscreens, medicines, and allergy testing

WHY IT MATTERS
May cause skin reactions and affect some medicines

WHAT IT IS NOT
Not a disease or an essential human vitamin

WHO TO ASK
A pharmacist, dermatologist, or prescribing clinician

HOW IT IS CHECKED
No routine blood test for PABA status

Overview

Para-aminobenzoic acid, usually shortened to PABA , is a carbon-based chemical compound. It is also called 4-aminobenzoic acid or aminobenzoic acid.

PABA is sometimes marketed as "vitamin B10," but this name is misleading. PABA is not recognized as an essential human vitamin, and there is no established PABA deficiency condition. Your body does not use PABA as a substitute for folate, also called vitamin B9.

PABA forms part of the chemical structure of folate. Many bacteria can use PABA to make their own folate. Humans cannot complete that process, so we must obtain folate from food, fortified products, or supplements when medically appropriate.

You may encounter PABA:

PABA is not a diagnosis, and most people do not need to measure or monitor it.

- In dietary supplements
- On older sunscreen or cosmetic labels
- As potassium aminobenzoate, a prescription medicine in some countries

- In information about sulfonamide antibiotics
- During assessment for a sunscreen or cosmetic allergy

How it works

Many bacteria need folate to grow and reproduce. They use PABA as one of the building blocks in their folate-making pathway.

Sulfonamide antibiotics interfere with this process. These medicines resemble PABA and block a bacterial enzyme needed to make folate. Human cells are affected differently because people obtain folate rather than making it from PABA.

This connection matters if you are considering an oral PABA supplement while taking a sulfonamide antibiotic. Potassium aminobenzoate prescribing information warns that it may interfere with the antibiotic like amoxicillin or doxycycline 's action. A pharmacist can check the exact products involved.

PABA also absorbs ultraviolet B, or UVB, radiation. UVB is part of sunlight that can damage skin and cause sunburn. Because of this property, PABA was once a common sunscreen ingredient. It provided little protection against ultraviolet A, or UVA, and could stain clothing or cause skin reactions.

Modern sunscreens are commonly sold as PABA-free. In the United States, the Food and Drug Administration's proposed sunscreen order classifies aminobenzoic acid as not generally recognized as safe and effective for over-the-counter sunscreen use.

Potassium aminobenzoate is a salt form of PABA used as a prescription medicine in some settings. It has been prescribed for selected conditions involving abnormal scar-like tissue, known as fibrosis. Its action in these conditions is not clearly established, and it should not be confused with a dietary supplement.

Why it matters for your health

PABA supplements are promoted for hair colour, skin health, or other uses. Good evidence supporting these general health claims is limited. There is no recommended dietary intake for PABA, and you do not need to seek out foods or supplements to avoid a PABA deficiency.

PABA cannot replace folic acid or other forms of folate. This is especially important if you have been advised to take folic acid for pregnancy, a folate deficiency, or because of a medicine you use.

Skin exposure is another concern. PABA and related sunscreen ingredients can cause allergic contact dermatitis . This is a delayed immune reaction that can produce an itchy, red, or blistered rash where the product touched the skin. Sun exposure can sometimes help trigger the reaction; this is called photoallergic contact dermatitis.

Some ester-type local anaesthetics, including benzocaine and procaine, are chemically related to PABA or break down into PABA-like substances. A confirmed allergy may therefore affect which numbing medicines or skin products are suitable. It does not mean you are allergic to every medicine whose name ends in "-caine." A clinician or pharmacist should review the specific ingredient.

Oral potassium aminobenzoate has different concerns from PABA in a cosmetic. Its prescribing information describes digestive side effects and a risk of low blood sugar, particularly when a person is not eating enough. It can also interact with sulfonamide antibiotics.

What can go wrong

The main situations linked with PABA are contact allergy, medicine interactions, and unwanted effects from oral products.

Allergic contact dermatitis may develop after repeated contact with PABA-containing sunscreen or cosmetics. The reaction can appear after the product has been used without trouble in the past. Other ingredients, such as fragrances or preservatives, can produce a similar rash, so the label alone cannot identify the cause.

Photoallergic contact dermatitis occurs when a substance on the skin and ultraviolet light together trigger an immune reaction. A dermatologist may use specialised patch or light-based testing when this is suspected.

Medicine interference is possible between oral PABA or potassium aminobenzoate and sulfonamide antibiotics. Do not assume that a supplement is harmless because it is sold without a prescription.

Low blood sugar can occur with prescription potassium aminobenzoate, especially during poor food intake. Warning signs can include sweating, shaking, weakness, dizziness, or confusion. People with diabetes or a history of low blood sugar need particular care if this medicine is prescribed.

Digestive upset, reduced appetite, fever, or a skin rash have also been reported with prescription potassium aminobenzoate. These effects should be discussed with the prescriber rather than managed by changing the dose yourself.

A PABA allergy is not the same as an allergy to folate, sulfonamide antibiotics, hair-dye ingredient para-phenylenediamine, or every local anaesthetic. The names and chemical relationships can be confusing, and assumptions may unnecessarily limit useful treatments.

What you can do

If you see PABA on a supplement label, check for the names para-aminobenzoic acid , 4-aminobenzoic acid , or aminobenzoic acid . Ask a pharmacist what benefit is expected and whether the product could interact with your medicines. There is usually no health reason to take PABA simply because it is described as a B vitamin.

If you use prescription potassium aminobenzoate, keep it on your medication list. Tell the prescriber promptly if you cannot eat normally or if you are starting an antibiotic. Do not stop or change a prescribed medicine without advice unless emergency care directs you to do so.

For a possible skin allergy, keep the product and photograph its full ingredient list. Stop using the suspected cosmetic until you can obtain advice. A dermatologist can perform patch testing for delayed contact allergy when appropriate. There is no useful home test and no routine blood test for PABA levels.

Arrange routine follow-up with a pharmacist or clinician if:

Seek prompt medical advice if a rash is widespread, painful, blistering, or involves the eyes or mouth. If you take prescription potassium aminobenzoate, seek prompt help for confusion, faintness, or other possible signs of low blood sugar.

Call emergency services for trouble breathing, collapse, or swelling of the tongue or throat after using or taking a product. For an accidental large ingestion, contact your local poison information service.

- You are considering a PABA supplement while taking medicines
- A rash repeatedly follows use of sunscreen or cosmetics
- You need clarification about a recorded PABA or local-anaesthetic allergy

Common questions

Is PABA vitamin B10?

"Vitamin B10" is an informal marketing name. PABA is not recognized as an essential vitamin, and there is no established daily requirement.

Does PABA provide folate?

No. Although PABA is part of folate's chemical structure, the human body cannot turn ordinary PABA supplements into the folate it needs. Use the folate product recommended for your situation.

Do foods contain PABA?

Small amounts may be present in foods, and intestinal bacteria can produce it. You do not need to track dietary PABA or plan meals around it.

Should I avoid every sunscreen if I have a PABA allergy?

No. Many sunscreens do not contain PABA. Check the active and inactive ingredients, and ask a dermatologist or pharmacist about suitable choices. "PABA-free" does not rule out reactions to other sunscreen ingredients.

Does a PABA allergy mean I cannot have local anaesthetic?

Not necessarily. Some ester-type local anaesthetics are related to PABA, while other classes are chemically different. Give the clinician the name of the product that caused the reaction and any allergy test results.

Can a blood test show whether I need PABA?

No routine blood test assesses PABA nutrition, and there is no recognized PABA deficiency that requires screening. Patch testing checks for contact allergy rather than measuring the amount of PABA in your body.

Sources

- National Center for Biotechnology Information: PubChem Compound Summary for 4-Aminobenzoic Acid
- NIH Office of Dietary Supplements: Folate Fact Sheet for Health Professionals
- US Food and Drug Administration: Proposed Administrative Order OTC000008, Sunscreen Drug Products for Over-the-Counter Human Use
- DailyMed: POTABA potassium aminobenzoate prescribing information
- DermNet: Allergy to para-aminobenzoic acid