

What Is the Nutritional Content of African Star Apple?

African star apples are rich in water, antioxidants, [vitamins](#), minerals, and [dietary fiber](#). 100 grams of fresh African star apple pulp contains:

- About 4 grams of protein
- About 5.5 grams of fat
- About 4.5 grams of fiber
- About 9 grams of carbohydrates
- About 120 calories
- About 700 milligrams of potassium
- About 400 milligrams of calcium
- About 215 milligrams of phosphorus
- About 8 milligrams of zinc
- About 93 milligrams of vitamin C
- About 340 micrograms of beta-carotene, which forms vitamin A
- About 2.5 milligrams of iron
- Apart from this, African star apples contain vitamins B1, B2, B3, B6, and E and antioxidants like [flavonoids](#).

What Are African Star Apple Health Benefits?

In Nigeria, African star apples are often used as a home remedy and herbal treatment. They are used in medicine because of their beneficial properties:

- **Antioxidant properties.** Antioxidants help detoxify your body. They hunt for toxic molecules called free radicals, which can cause [oxidative damage](#) to your cells. African star apples contain antioxidants that get rid of free radicals and protect your organs from damage.
- **Anti-inflammatory properties.** African star apple fruits are abundant in [anti-inflammatory](#) substances like alkaloids, flavonoids, and phenols. These reduce inflammation in your body and prevent long-term health conditions such as diabetes, cancer, and heart problems.
- **Antimicrobial properties.** Lab studies have shown that extracts from African star apple seeds have antibacterial and antifungal properties. However, more studies are required to determine dosage and effect on humans.

What Are African Star Apple Health Benefits?

1. Improves heart health. African star apples are a rich source of natural antioxidants such as flavonoids and [vitamin E](#), C, and A. They prevent oxidative damage of cells and promote heart health. Studies have also shown that the African star apple contains glycosides. They are antioxidants that help fight heart disease. The fruit also contains low levels of [sodium](#) and high levels of [potassium](#), which makes it a healthy snack for people with [high blood pressure](#). It also has anti-inflammatory properties that can help prevent [heart disease](#) and [stroke](#).

What Are African Star Apple Health Benefits?

2. Helps manage and control diabetes. Evidence suggests that African star apple pulp can lower [blood sugar levels](#) and act as an effective dietary supplement to manage diabetes. The fruit contains high amounts of fiber, which lowers blood sugar. It also contains natural antioxidants that fight oxidative damage and prevent [diabetes](#). African star apple also lowers the levels of enzymes such as alpha-amylase and alpha-glucosidase, which break down carbohydrates and increase blood sugar levels. This suggests that the fruit can be consumed to help manage diabetes.

What Are African Star Apple Health Benefits?

3. Prevents cancer. A high-fiber and antioxidant-rich diet can prevent different types of cancer, such as [colorectal cancer](#). Research shows that African star apples may play an important role in preventing the growth of cancerous cells. African star apples are rich in pectin, a type of fiber, and antioxidants such as beta-carotene and vitamin E. It also has anti-inflammatory properties, which can help prevent cancer growth.

What Are African Star Apple Health Benefits?

4. Lowers bad cholesterol levels. High levels of [bad cholesterol](#) can increase your risk of developing blockage in your arteries. This can lead to heart problems and stroke. *Chrysophyllum albidum* or African star apple fruits contain compounds called saponins. They bind to bad cholesterol and prevent it from entering your bloodstream. African star apples also have high levels of pectin or fiber, which improves [good cholesterol levels](#). Research also shows that [vitamin C](#) in food can increase the levels of good cholesterol. Snacking on African star apples can increase your vitamin C levels and, in turn, improve cholesterol levels.

What Are African Star Apple Health Benefits?

5. Helps cure and prevent diarrhea. Traditionally, African star apples are used to prevent [diarrhea](#). They have high pectin and fiber content. Eating African star apples can treat diarrhea and improve your bowel movements.

What Are African Star Apple Health Benefits?

6. May improve memory and brain function. A recent animal study showed that African star apples improved memory and brain function in mice. Substances known as lipopolysaccharides can affect [memory and cognition](#) by increasing oxidative damage, inflammatory molecules, and chemical activity in the brain. When mice were given a diet of *Chrysophyllum albidum* fruits, though, their memory and cognition improved. The antioxidant and anti-inflammatory properties of these fruits likely reverse the damage caused by lipopolysaccharides and restored brain function. However, human studies are required to confirm this medical benefit.

What Are African Star Apple Health Benefits?

7. Prevents obesity and aids in weight loss. Doctors recommend high-fiber diets to prevent [obesity](#) and aid in weight loss. Fiber makes you stay full for longer and reduces your appetite, thus helping you lose weight. African star apples have low calories and high fiber content. They can help you control your weight and prevent obesity.

What Are African Star Apple Health Benefits?

8. Other health benefits. *Chrysophyllum albidum* is a great source of micronutrients and minerals like [calcium](#), [phosphorus](#), and potassium. Your body uses these minerals to maintain electrolyte balance, transmit brain signals, and build strong bones and teeth. [Zinc](#) present in African star apples promotes the growth and maintenance of your body's cells. The fruit also provides copper and manganese, which help activate proteins and enzymes in your body.

African Star Apple Contains!

1. [Vitamin E](#), C, and A
2. Vitamins B1, B2, B3, B6
3. Anti-inflammatory compounds
4. Antioxidants
5. Alpha-amylase and alpha-glucosidase
6. Pectin
7. Beta-carotene
8. Saponins
9. Lipopolysaccharides
10. Zinc

Where to search for functional annotation?

Uniprot



KEGG



ChatGTP

Where to se arch for functional annotation?



genome.jp/kegg/

KEGG Databases Tools Auto annotation Kanehisa Lab

KEGG

KEGG: Kyoto Encyclopedia of Genes and Genomes

KEGG is a database resource for understanding high-level functions and utilities of the biological system, such as the cell, the organism and the ecosystem, from molecular-level information, especially large-scale molecular datasets generated by genome sequencing and other high-throughput experimental technologies. See Release notes (April 1, 2021) for new and updated features.

New article: KEGG: biological systems database as a model of the real world

KEGG Database

- KEGG2 KEGG Table of Contents [Update notes | Release history]
- KEGG PATHWAY KEGG pathway maps
- KEGG BRITE BRITE hierarchies and tables
- KEGG MODULE KEGG modules
- KEGG ORTHOLOGY KO functional orthologs
- KEGG GENES Genes and proteins [Statistics]
- KEGG GENOME Genomes [Taxonomy | Synteny]
- KEGG Virus Virus-organism relationships
- KEGG Organisms Enter org code(s) [Go]
- KEGG COMPOUND Small molecules
- KEGG GLYCAN Glycans
- KEGG REACTION Biochemical reactions [RModule]
- KEGG ENZYME Enzyme nomenclature
- KEGG NETWORK Disease-related network variations
- KEGG DISEASE Human diseases
- KEGG DRUG Drugs [New drug approvals]
- KEGG MEDICUS Health information resource [Drug labels search]

Analysis Tools

- KEGG Mapper PATHWAY/BRITE/MODULE mapping tools
- KEGG Web Apps Pathway viewer with coloring features, etc.
- KEGG Syntax Conserved gene, gene set and gene order analysis
- KEGG Annotation KO assignment and validation
- BlastKOALA BLAST-based KO annotation and KEGG mapping
- GhostKOALA GHOSTX-based KO annotation and KEGG mapping
- BLAST/FASTA Sequence similarity search

Pathway
Brite
Brite table
Module
Network
KO (Function)
Organism
Virus
Compound
Disease (ICD)
Drug (ATC)
Drug (Target)
Antimicrobials

KEGG Database	
KEGG2	KEGG Table of Contents [Update not
KEGG PATHWAY	KEGG pathway maps
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KEGG MODULE	KEGG modules
KEGG ORTHOLOGY	KO functional orthologs
KEGG GENES	Genes and proteins [Statistics]
KEGG GENOME	Genomes [Taxonomy Synteny]
KEGG Virus	Virus-organism relationships
KEGG Organisms	Enter org code(s) <input type="text"/> <input type="button" value="Go"/>
KEGG COMPOUND	Small molecules
KEGG GLYCAN	Glycans
KEGG REACTION	Biochemical reactions [RModule]
KEGG ENZYME	Enzyme nomenclature
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Where to search for functional annotation?



Analysis Tools

KEGG Mapper

KEGG Web Apps

KEGG Syntax

KEGG Annotation

BlastKOALA

GhostKOALA

BLAST/FASTA

SIMCOMP

PATHWAY/BRITE/MODULE mapping tools

Pathway viewer with coloring features, etc.

Conserved gene, gene set and gene order analysis

KO assignment and validation

BLAST-based KO annotation and KEGG mapping

GHOSTX-based KO annotation and KEGG mapping

Sequence similarity search

Chemical structure similarity search

BlastKOALA
Automatic KO assignment and KEGG mapping service

	BlastKOALA	GhostKOALA	KofamKOALA
KOALA job status 2025/06/06 03:23:15 (GMT+9)			
	Blast	Ghost	Kofam
Number of jobs in the queue	0	0	0
Submission of last completed job	2025/06/06 02:30:18	2025/06/06 01:40:33	2025/06/06 03:01:19

KOALA (KEGG Orthology And Links Annotation) was originally developed as KEGG's internal annotation tool for KO (K number) assignment using SSEARCH computation. Three variants of this tool are available for assigning K numbers to the user's sequence data: BlastKOALA and GhostKOALA using BLAST and GHOSTX searches, respectively, and KofamKOALA served by GenomeNet using the HMM profile search. The new version of BlastKOALA introduced on April 1, 2023 searches a small subset of KEGG GENES containing KEGG reference genomes and individual sequences linked from PubMed records of KO entries, rather than a much larger nonredundant dataset [1]. See [Step-by-step Instructions](#).

For up to 10 sequences you can use the [KO assignment tool](#), an interactive version of BlastKOALA.

Upload query amino acid sequences in FASTA format

Enter FASTA sequences

Or upload file: No file chosen

Your query data consisting of multiple amino acid sequences will be given K numbers by BlastKOALA. Up to 10,000 sequences may be uploaded at a time. If you have a larger number of sequences, run BlastKOALA with smaller split data and combine the result for KEGG Mapper analysis.

Select reference GENES dataset to be searched

☐ Eukaryotes
☐ Prokaryotes
☐ Viruses

Eukaryotes and prokaryotes contain sequences of KEGG reference genomes and sequences linked from PubMed records of KO data. Viruses contain all sequences of KEGG viruses.

Enter your email address (institutional only, no free emails)

Strategies?

- Search for annotated gene/protein sequences in Uniprot and KEGG for more detailed functional annotations and possible pathways involved.
- Search for keywords in Uniprot and KEGG for genes or pathways connected to these keywords.
- Search for not annotated gene/protein sequences in Uniprot and KEGG for potential sequence similarities and potential functional annotations and pathways involved.
- Keyword search in PubMed