



A1 & A2 MILK - HEALTH

News: The Food Safety and Standards Authority of India (FSSAI) has directed food businesses and e-commerce platforms to remove claims of 'A1' and 'A2' types of milk and milk products from their packaging.

What's in the news?

What are A1 and A2 types of milk?

- According to FSSAI, the distinction between A1 and A2 milk is based on the structure of beta-casein protein in milk, which varies depending on the breed of the cow.
 - **More than 80 per cent of all proteins in cow's milk belong to a class called caseins.**
- Among these, beta-caseins are the second largest component.
- **A1 and A2 are basically two genetic variants of beta-caseins**, differing from each other in their amino acid sequence.
- **A1 contains histidine**, one of the nine essential amino acids which the body uses to produce histamine, the chemical that enables the body to regulate its reaction to inflammation and allergies.

A2 milk	A1 milk
Desi Cow milk	Ordinary milk
Indian Desi cows produce A2 milk which contains A2 Beta casein.	Jersey cow produce A1 milk which contains A1 Beta casein.
Desi cow milk only contains the A2 protein and no A1.	All ordinary milk has a mixture of A1 and A2 proteins.
High level of Omega 3 that cleans the cholesterol deposits of blood vessels	Harmful to human body.
Cerebrosides present in A2 milk increases brain power.	Autism, Schizophrenia, Stomach Ulcer, Type 1 diabetes and cardiac disease
Strontium of A2 milk enhances the body immunity and protects from harmful radiation.	Holsteins and Friesians are not native breeds of India.

- **A2 contains proline**, a non-essential amino acid which is an essential component of collagen and important for proper functioning of joints and tendons.



- Milk from different cow breeds have differing quantities of A1 and A2 beta-caseins.
- **Most milk contains both these beta-caseins, but A2 milk contains only the second one.**
- Generally, milk and milk products which are branded as **A2 tend to be charged at a premium**, and considered healthier.

Why is FSSAI against milk classification?

- The regulator pointed out that current FSSAI regulations do not recognize this distinction.
- As a result, food business operators (FBOs) have been instructed to remove such claims from their products.

Aspect	Details
Comparison of A2 Milk and Regular Milk	Some studies suggest A2 milk may be healthier, but consensus is lacking.
Studies on A1 vs. A2 Milk	A 2012 study suggested links between A1 beta-caseins and health issues such as type-1 diabetes and coronary heart disease .
Current Evidence	Most findings are based on in vitro and animal studies with limited, poorly designed clinical trials.
FSSAI's August 21 Advisory	Advisory was due to FSSAI standards not recognizing A1 vs. A2 differentiation, not based on scientific evidence .
Action by FSSAI	Directed removal of A1 and A2 claims from product labels due to non-recognition in current standards.
Global Trends	In countries like the USA, Australia, and New Zealand , A1 and A2 milk are marketed separately due to potential digestion differences.