

COWS' MILK A1 & A2 TYPE BETA-CASEIN PROTEIN DIGESTION

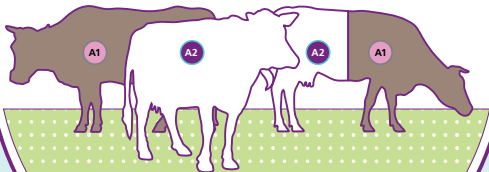


Investigate
Communicate
Collaborate

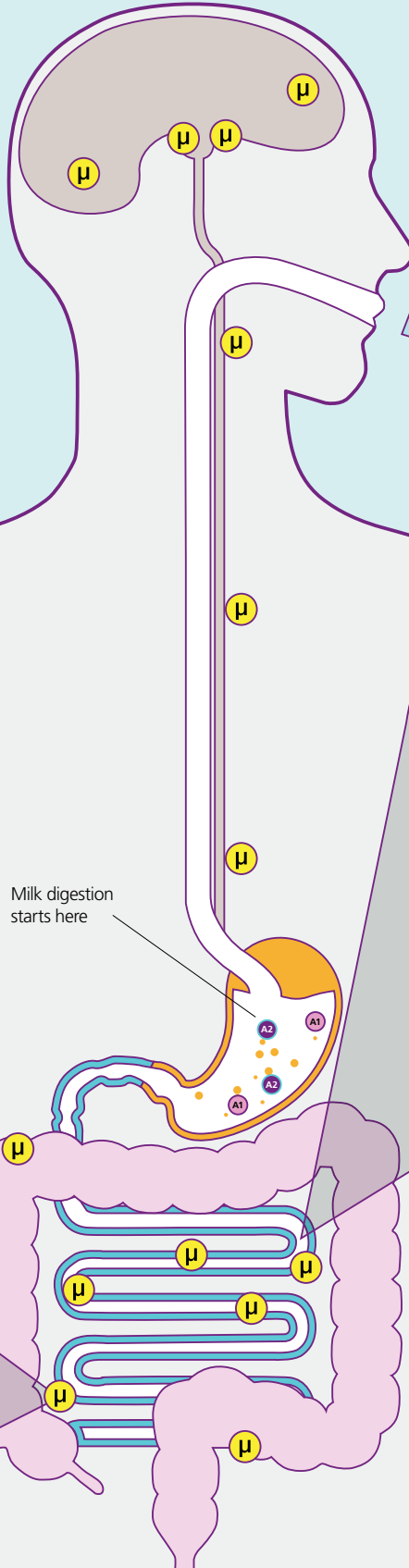
A2 beta-casein is the original beta-casein protein gene. A mutation caused the A1 protein to appear a few thousand years ago.

1

Milk herd carrying genes for both beta-casein protein types

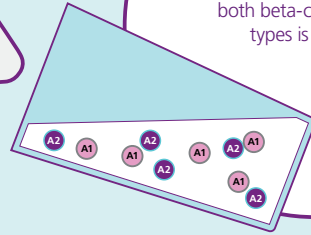


Milk content	
250ml	
30-38g Solids	
9-15g Fat	
10-12g Lactose	
7-10g Protein	
5.5-8g Casein	
2-3g A1 & A2 type beta-casein proteins	



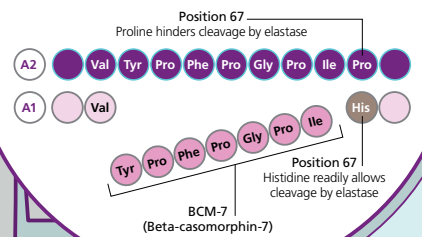
2

Regular milk containing both beta-casein protein types is ingested



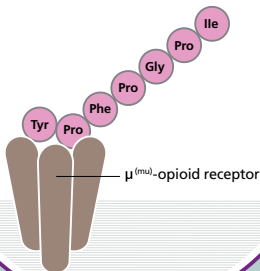
3

Digestion of A1 beta-casein in the small intestine releases BCM-7. The structure of A2 beta-casein limits the release of BCM-7 on digestion.



BCM-7 can bind to mu-opioid receptors present throughout the body. In the gut, BCM-7 can trigger inflammation, intestinal transit time delay and microbiome changes, and consequently gastrointestinal symptoms in some people.

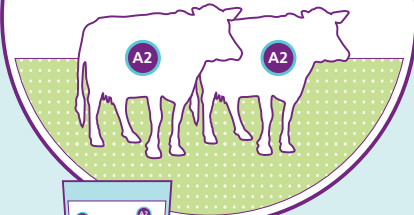
4



In some patients with gastrointestinal discomfort following commercial milk intake, avoiding the A1 protein may make the difference

5

a2 Milk® from purely A2 type beta-casein gene carrying herds



a2 Milk® contains only the A2 protein, and no A1, and is naturally free of BCM-7 related issues.

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