

DIFFERENCES IN GASTRIC PROTEIN DIGESTION IDENTIFIED IN GOAT AND COW'S MILK INFANT FORMULA AND HUMAN MILK¹



Our previous study showed:

The protein digestion kinetics of goat milk infant formula (GMF) are more comparable to those of human milk (HM) than those of cow's milk infant formula (CMF).²

Does gastric digestion behaviour contribute to this difference?



About 50%



About 50%



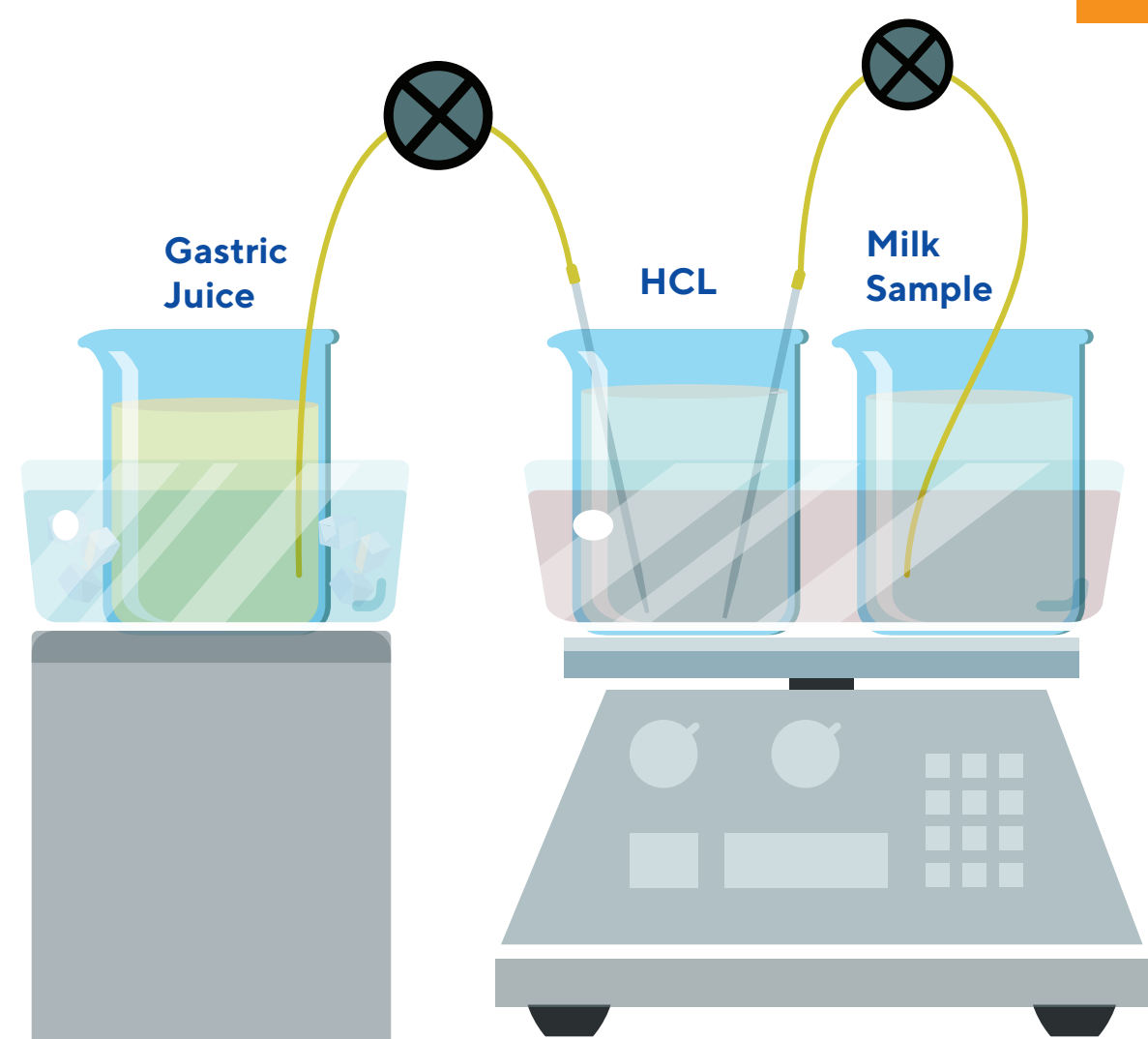
About 35%



Protein digestion after two hours

- Fresh HM, GMF (Kabrita) and CMF were subjected to digestion in a semi-dynamic gastric model simulating infant conditions.
- The pH was gradually reduced from about 7 to 3.5 and samples were taken when the pH level was 6.0, 5.5, 4.5 and 3.5.

Method

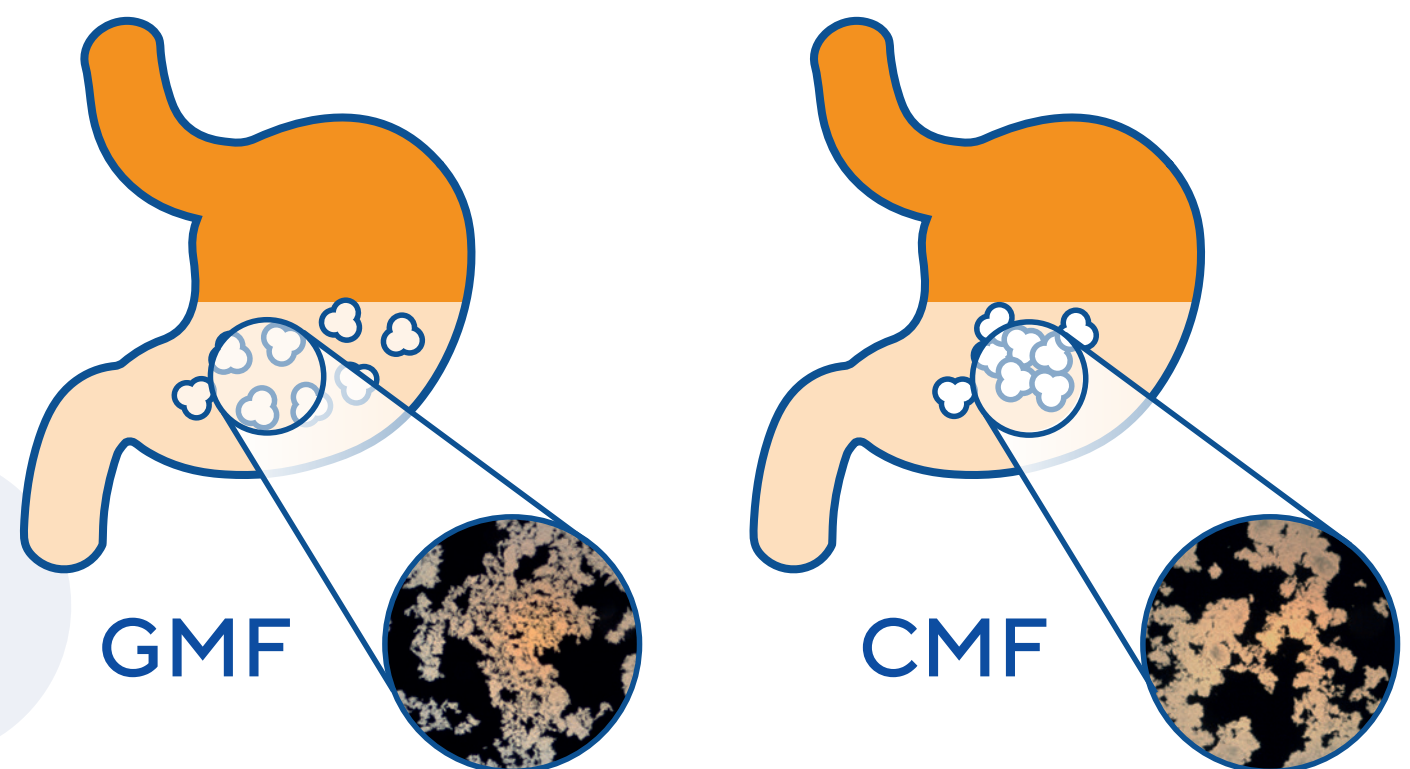


Result 01: Aggregates formation

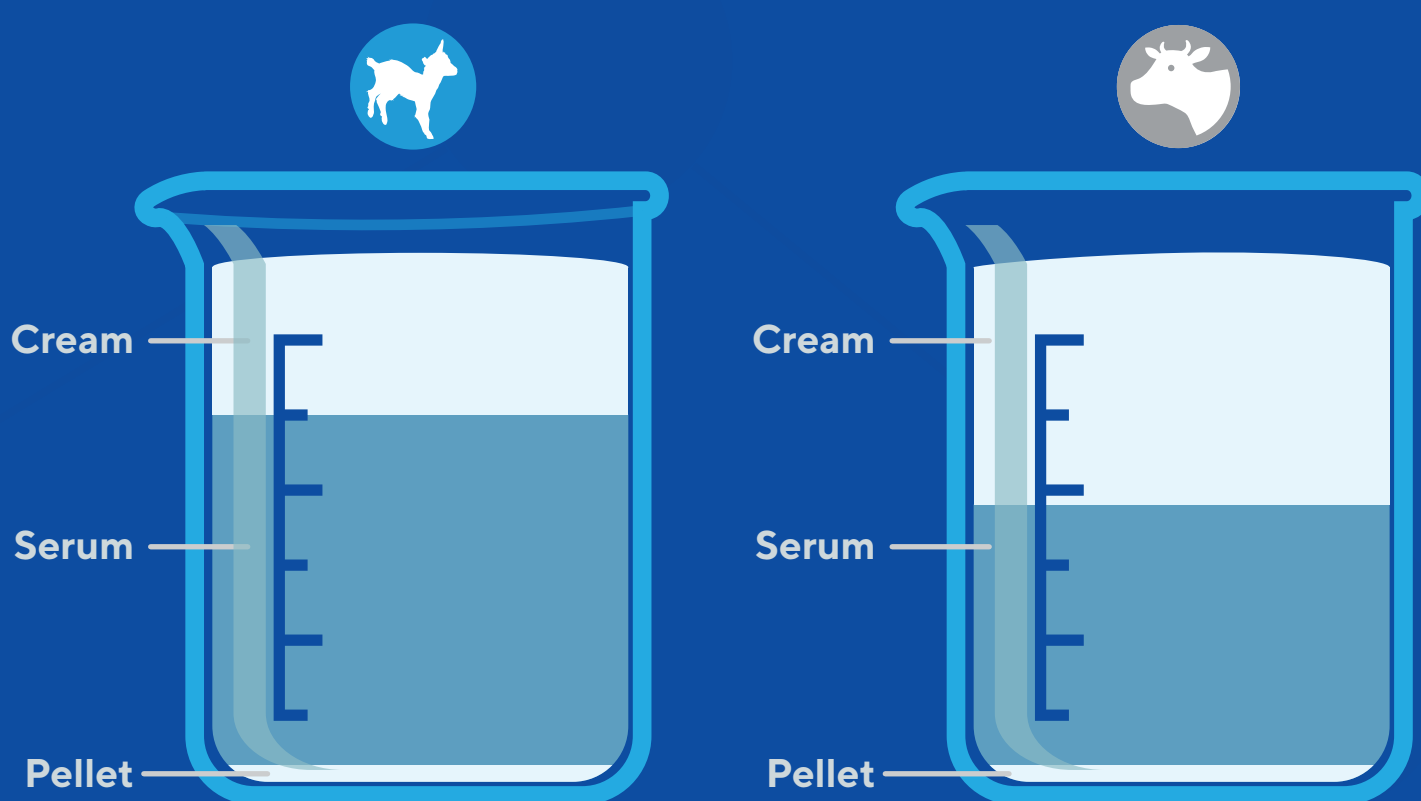
Size aggregates: HM > GMF > CMF
GMF aggregates were looser than CMF aggregates.

Larger and looser aggregates may allow easier diffusion of pepsin and other enzymes, facilitating more efficient digestion.

Aggregates of goat and cow's milk infant formula in the stomach



Protein distribution after centrifugation



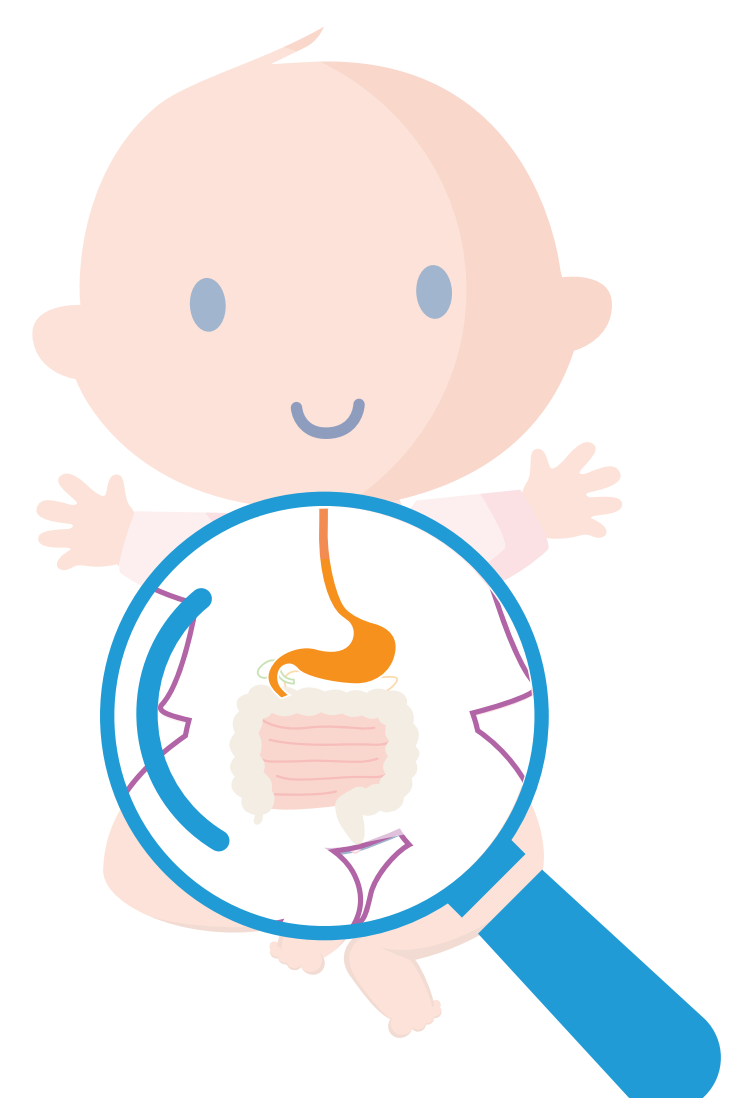
Result 02: Protein distribution

Proportion of protein in the serum phase after centrifugation: HM > GMF > CMF

Protein in the serum phase may be more readily emptied from the stomach for further digestion, resulting in faster protein digestion.³

Conclusion

A number of notable differences between GMF and CMF were observed, which may contribute to the observation that the protein digestion kinetics of GMF are more comparable to those of HM.



References: 1: He et al. 2021. 2: Maathuis et al. 2007. 3: Golding and Wooster 2010

Disclaimers:

- Ausnutria acknowledges that breastfeeding is the best way to feed infants aged 0-6 months and supports prolonging breastfeeding to 24 months (two years old).
- For health care professionals only.