ProTake

UNLOCKING APPLICATION POTENTIAL

Hydrolyzed collagen: your ally in high-protein bar formulation

It is common knowledge that different proteins have varying characteristics in terms of functionality, sensory properties, stability and nutritional value. So, depending on the raw material, formulation and production process, **hardening and cold flow may occur across a bar's shelf life.** Some proteins may also impart undesirable flavor off-notes or interfere with the coating of bars. **This can make it difficult for producers to achieve the great taste, soft, chewy or short texture and authentic shape that consumers expect from these products.**

Did you know that whey and caseinate proteins, for example, are partly soluble ingredients (40-80%) with low waterbinding capacity and a molecular weight of 6-80 kDa and 18-30 kDa, respectively, that often lead to cold flow and inconsistencies in texture outcomes. Meanwhile, soy and pea proteins possess a much lower solubility (<20%), but higher waterbinding capacity and molecular weight of 140-393 kDa and 170-380 kDa, respectively — causing a grainy and short texture in bars, as well as a hard texture in products with a protein content of 15% or higher.

Successful high-protein bar

with the desired soft and short texture, and aerated and grainy visual appeal

You are aware of all of this – but did you know that **mixing proteins with different molecular weights** can significantly help to overcome the various complex stability, sensory and nutritional challenges associated with formulating high-protein bars?

A highly soluble (100%) and light (molecular weight of around 5 kDa) ingredient, **hydrolyzed collagen** – used in combination with other proteins of a higher molecular weight – can support the development of **great-tasting high-protein bars** with the desired **soft, chewy and/or short texture.**

Unsuccessful bar showing a cold flow effect that might accelerate the change of texture

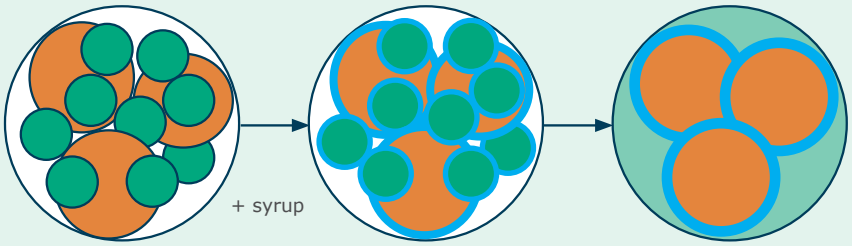
Rousselot

Health & Nutrition

Unlocking application potential with ProTake™

By working closely with food producers, Rousselot's Application Laboratory has developed a new portfolio of hydrolyzed collagen solutions, ProTake, for creating premium high-protein bars.

Neutral in taste and odor, soluble in hot and cold liquid, easily dispersible, and pH and heat stable — these versatile ingredients merge dietary and nutritional benefits for achieving high protein content in bars, with advantageous formulation functionalities stable under a wide variety of processing protocols.



ProTake bars
Traditional proteins
Water

Stage 1:
Proteins in powder

Stage 2:
Proteins aggregate and absorb water

Grainy, aerated, structured bars

Stage 3:
ProTake dissolves while traditional proteins stay intact

Grainy, aerated, structured bars with a small continuous phase between grains

Increasing kneading and storage time

Thanks to Rousselot's technical experts in defining the right dosages of different proteins and processing conditions, ProTake's specific functionality is fully utilized to manage defects in bars such as cold flow and hardening. This allows producers to achieve the desired end product characteristics,
with the result being a bar with an aerated texture and structured shape that meets – and exceeds – consumer expectations.

Recipe idea

With ProTake, bars can be (re)formulated with higher collagen content, great taste and texture. In this high protein bar, more than 35% of the energy value comes from proteins.

Recipe (for 100 kg of finished product)

(a) Rousselot® ProTake™	**21.6**	**kg**
Whey protein isolate	14.4	kg
Lacprodan (Arla)		
(b) Almond paste	3.5	kg
Glycerin (glycerol)	3.5	kg
Flavor (liquid)	q.s.	
(c) Maltitol syrup (Lycasin 80/55)	37	kg
(d) Xylitol	3.2	kg
(e) Coating compound Carat coverlux dark (Puratos)	20	kg

Nutritional facts

	For 100g	**For 1 bar (45g)**
Energy	349 kcal 1465 kJ	157 kcal 658 kJ
Fat of which – saturates	9.1 g 7.1 g	4.1 g 3.2 g
Carbohydrate of which – sugars – polyols	47 g 10 g 35 g	21 g 4.6 g 16 g
Fiber	1.7 g	0.8 g
Protein	33 g	15 g
Salt	0.19 g	0.08 g

For more information, contact us at **rousselot.com/contact**

@RousselotHealth Rousselot

rousselot.com/health

Rousselot
Health & Nutrition