

# PALAPRO 80P



## **BALANCE OF PALATABILITY AND IMMUNOGLOBULINS**

Palapro is a unique animal protein product produced by Sonac. By combining the benefits of plasma proteins with those of intestinal peptones (peptides) Sonac has created a totally new and interesting product: the generally recognized, excellent performance delivered by plasma through its immunoglobulins is enhanced with free amino acids and small di- and tripeptides supplied through hydrolyzed intestinal mucosa.

**Natural Ingredients. Smart Solutions.**

**sonac**

**DARLING**  
INGREDIENTS

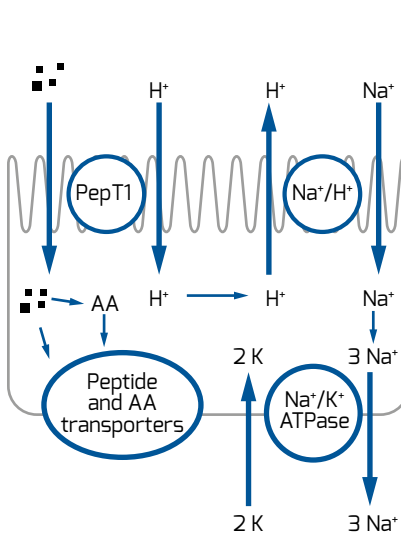
## SOURCE OF PEPTIDES

Gilbert (2008) in his review on peptide nutrition showed the special benefit of peptide nutrition: animals have 3 ways how peptides can be taken up directly from the intestinal lumen into the gut cell and / or blood stream. This is both an energy- efficient and a fast way of delivering amino acid products to a very active tissue.

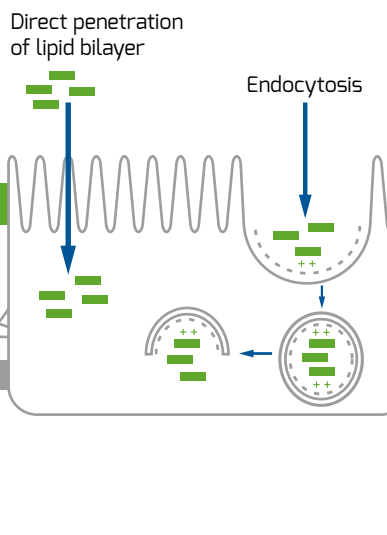
Hence the addition of hydrolyzed mucosal tissue leads to improved taste and fast availability of amino acids and peptides for gut cells (enterocytes).



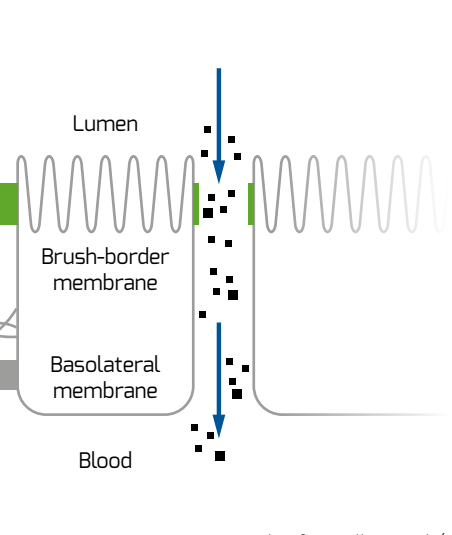
**A. Active transport via PepT1 transporter**



**B. Transcellular movement of CPP with peptides as cargo**



**C. Paracellular movement**

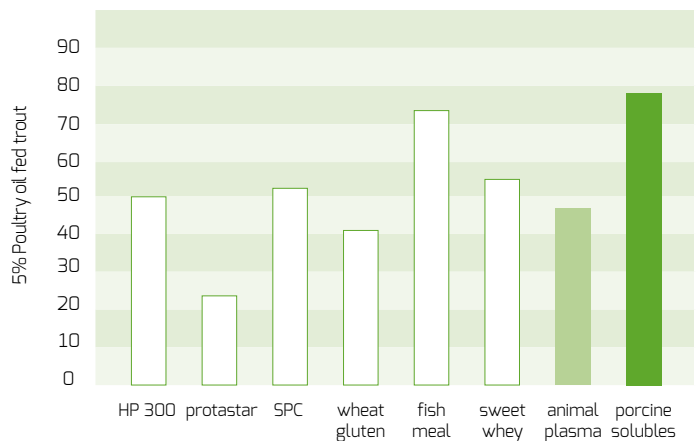


Taken from Gilbert et al. (2008)

Research done with 8wk old piglets by Sola-Oriol (2011) showed the strong preference piglets have for peptones from intestinal tissues.

Test Ingredients were included at 5 % at the expense of 5 % HP-300. All diets were tested in a one-to-one intake preference trial against a reference diet containing 20 % HP-300 soy concentrate.

**Feed preference trial with weaned piglets (Solà-Oriol 2011)**



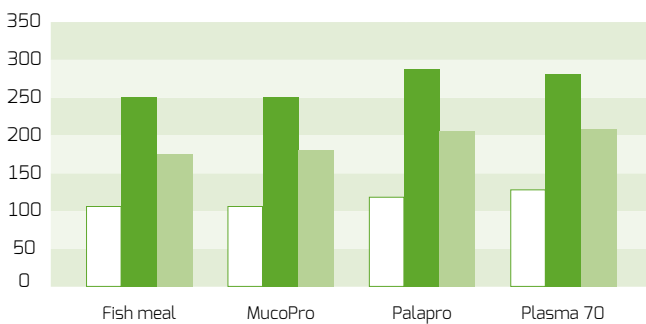
## PALAPRO STIMULATES FEED INTAKE

The benefit of Palapro is shown in research performed by the University of Madrid (Spain 2010). Piglets were weaned at 25 ± 3 days; control diet with 8 % prime quality Chilean fish meal, other treatments: 3 % MucoPro, 3 % Palapro or 3 % plasma 70 in exchange with fish meal. First 2 weeks post-weaning showed feed intakes of feeds containing Palapro or plasma significantly higher than those containing fish meal or porcine peptones. During the full monitoring period (5 weeks post-weaning) Palapro showed the best feed conversion ratio.



### Piglet trial UPM Madrid may 2010

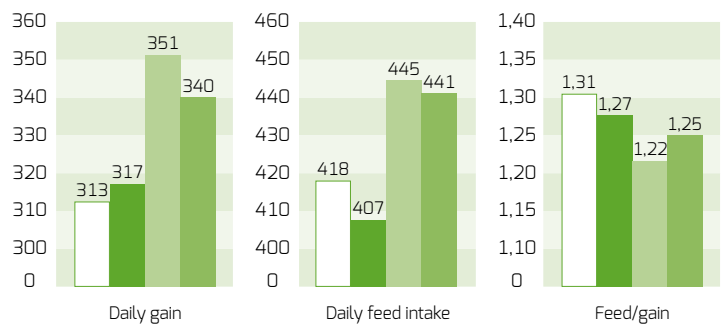
Legend: 1st week (light green), 2nd week (dark green), total period (medium green)



Daily feed intake prestarter period

### Overall results (28-63 days)

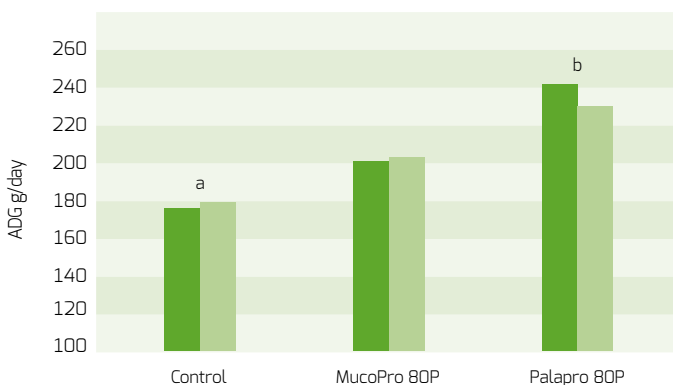
Legend: Fish meal (light green), MucoPro (dark green), Palapro (medium green), Plasma 70 (lightest green)



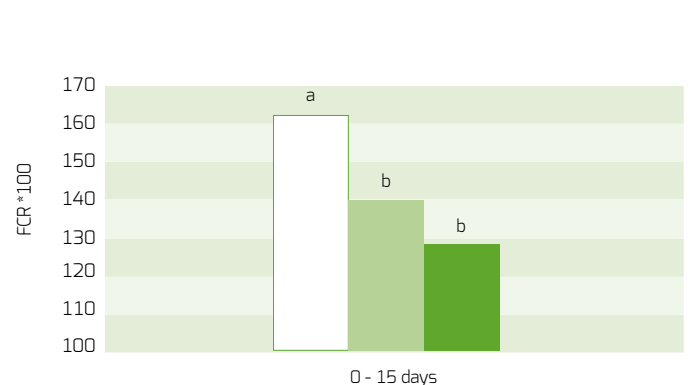
In a recent trial executed with weaned piglets (26 days) at the German institute for field trial research Futterkamp in 2013 Palapro (@ 4 %) was tested against a control diet containing 4 % HP 300 or a diet with 2,5 % MucoPro 80P. The Palapro diet significantly outperformed the vegetable based feed, both in feed intake and feed conversion rate. An improved feed conversion rate was also observed in the group having received Mucopro 80P. The results during the first 15 days and the overall results are presented below.

### Light or heavy weight at weaning and fed with different diets

Legend: Light (7,1 kg) (light green), Heavy (9,4 kg) (dark green)



Legend: Control (light green), MucoPro 80P (medium green), Palapro 80P (dark green)



## EU FEED LAW

Palapro is a 100% porcine protein source. It is considered a non-ruminant blood product and should be labelled as such. According to EU legislation, Palapro is not allowed in ruminant feeds and can only be used in non-ruminant feed production facilities.

## APPLICATION OF PALAPRO

The most obvious application for a high protein and immunoglobulin rich raw material like Palapro 80P would be in (pre)-starter feeds for young animals, esp. piglets. It can be used in weaner or pre-starter diets when a high feed intake, a high daily gain and optimal protection is wanted. It is a good alternative to classic plasma products, offering a functional, highly concentrated protein source at an economical optimum. Especially in the first week after weaning the peptides of Palapro give an attractive extra value/ nutrient to the gut cells, which is reflected in a very low FCR figure. The recommended inclusion level of Palapro 80P is 3 - 5% in weaner and prestarter piglet diets.



## THE ADVANTAGES OF PALAPRO

- Very palatable animal protein product;
- A unique combination of plasma and intestinal peptones;
- Increases daily gain of piglets after weaning;
- Increases the feed efficiency esp. in the first week after weaning
- Very efficiently used by the gut cells (peptides); Reinforces the intestinal defence system; the barrier function
- High level of immunoglobulins;
- A very concentrated protein source (80 %);
- Water soluble for liquid applications;
- The best alternative for plasma products with lower protein levels (around 70 %)

Sonac is a leading manufacturer of reliable ingredients of animal origin. With an active R&D program, reliable processes and sustainable end products Sonac continuously adjusts to market needs. A good geographical spread of locations and a broad portfolio of fats, proteins, minerals and specialties make Sonac a trusted partner for many international producers in food, pet food, feed and fertilizers, worldwide. Sonac is part of Darling Ingredients.



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**DARLING**  
INGREDIENTS