



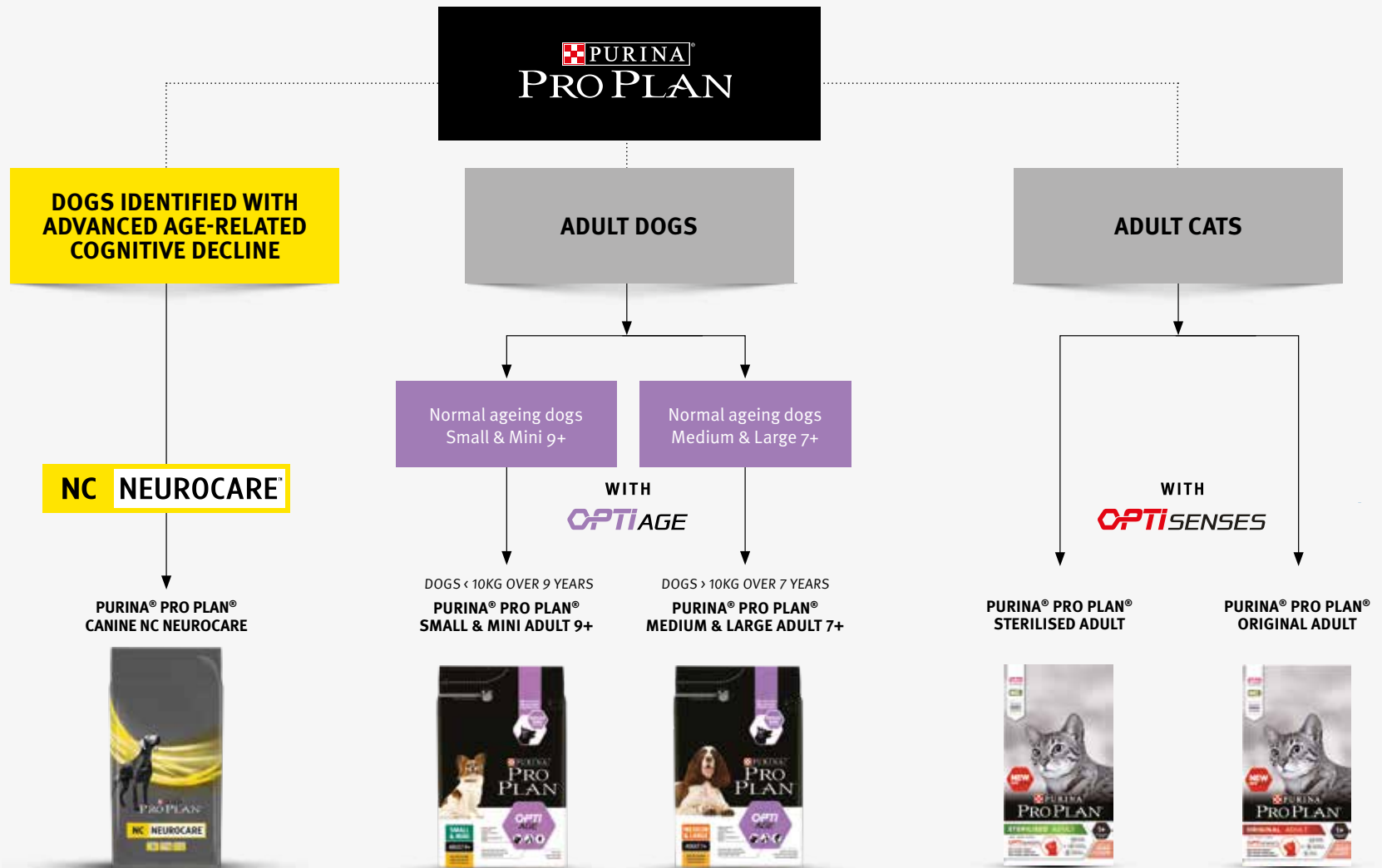
 PURINA®
PRO PLAN®

BRAIN HEALTH

Effective nutritional solutions from PURINA® PRO PLAN®

BRAIN HEALTH

Product Selector



PURINA® PRO PLAN® CANINE NC NEUROCARE

Clinically proven to help enhance canine brain and cognitive function

NC NEUROCARE™

RECOMMENDED FOR

- Brain function
- Age-related cognitive decline

KEY BENEFITS

BRAIN FUNCTION

Formulated with MCT and neuroprotective nutrients clinically proven to help enhance canine brain function

COGNITIVE FUNCTION

Specially formulated to help support cognitive function in senior dogs. Visible results in 30 days

MCT

Ketogenic diet that provides an alternative source of energy for the brain

PURINA® PRO PLAN® CANINE NC NEUROCARE

First and only canine nutrition formulated with **6.5% MCTs***



MCT's

- 1 Act as an alternative energy source for the brain

The brain usually utilises glucose as its primary energy source. In the face of compromised glucose metabolism, neurons may benefit from an alternative energy source. MCT's in the diet are metabolised to MCFAs (medium chain fatty acids) during digestion and converted in the liver to ketone bodies (β-hydroxybutyrate) which can act as an alternative energy source for the brain.

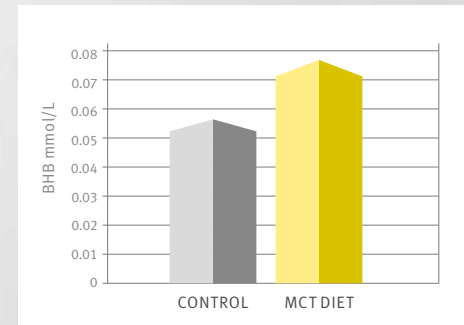
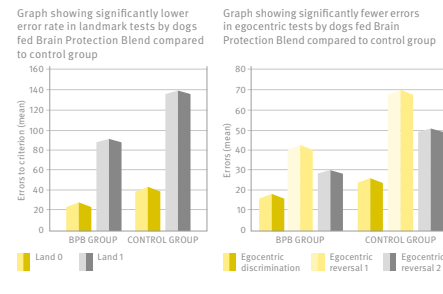
In addition, the MCFAs themselves are more readily oxidised by astrocytes in the brain than long chain triglycerides so they themselves can also be used as an alternative energy source by the brain.

- 2 A significantly higher level of the ketone body β-hydroxybutyrate was found when a diet fortified in MCT's was administered to dogs, compared with a control diet.¹

BRAIN PROTECTION BLEND (BPB)

A recent study in dogs, conducted during 6 months, shows that long term supplementation with a nutrient blend consisting of antioxidants, B vitamins, fish oil and L-arginine can have cognition improving effects.² The study supports the use of nutritional strategies in targeting brain ageing associated risk factors as an intervention to delay cognitive ageing.

The BPB-supplemented group showed significantly better performance than the control group in 3 cognition tasks tested.



FEEDING GUIDELINES

BODY WEIGHT (kg)	ADULT (g/day)	SENIOR (g/day)
2.5	70	60
5	110	95
10	175	155
15	230	200
25	325	285
35	405	355
45	480	420
70	645	565

INGREDIENTS: Maize, dehydrated poultry protein, wheat flour, dehydrated salmon protein, medium chain triglycerides oil (6.5%), dried beet pulp, rice, dried egg, maize gluten meal, digest, fish oil, minerals.

CANINE NC NEUROCARE

Key nutrient values (as fed)	Dry
Moisture	7.5%
Protein	30%
Fat	15%
Carbohydrate	38.5%
Crude fibre	1.5%
MCT	6.5%
EPA + DHA	0.4%
Vitamin E	519 IU/kg
Vitamin C	82 mg/kg
Arginine	2.2%
Selenium	0.5 mg/kg
B Vitamin	210 mg/kg
Metabolisable energy (ME)**	3.67 kcal/g

*Based on declared amount of MCT in the ingredient list

1. Law TH et al. (2015). A randomized trial of a medium-chain TAG diet as treatment for dogs with idiopathic epilepsy. Br J Nutr 2015;114:1438-1447.

2. Pan Y, et al. (2018). Cognitive enhancement in old dogs from dietary supplementation with a nutrient blend containing arginine, antioxidants, B vitamins and fish oil. Br J Nutr. Feb;119(3):349-358.2.

**Calculated using modified Atwater's factors

PURINA® PRO PLAN® SMALL & MINI ADULT 9+ WITH OPTIAGE™

Specially formulated to support cognitive function in senior dogs

KEY BENEFITS

SUPPORTS COGNITIVE FUNCTION



With an alternative brain energy source fractionated from botanical oils resulting in a more curious and responsive dog

SUPPORTS BETTER SOCIAL INTERACTION



Helps maintain interaction with his family thanks to improved brain function

TOTAL ORAL CARE



The small crunchy kibble has a natural brushing effect on teeth and the extra special minerals added reduce tartar build up

PURINA® PRO PLAN® SMALL & MINI ADULT 9+ WITH OPTIAGE



Clinically proven
to enhance brain
function in
ageing dogs

Visible results in 30 days

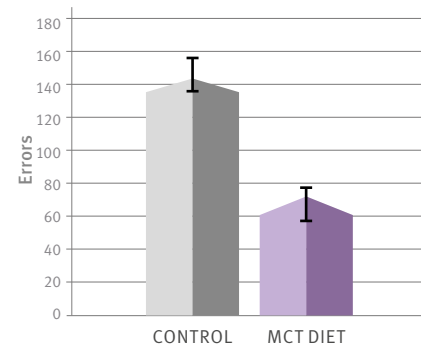
PROVEN RESULTS

OPTIAGE™ is proven to improve cognitive function and mental alertness in senior dogs

A study from Nestlé PURINA has proven that OPTIAGE™ blend²:

- Improves memory and interactivity in older dogs
- Helps increase the ability of a senior dog to adapt and cope with changes
- Increases a senior dog's attention span and alertness

Graph shows Dogs fed MCTs had improved cognitive function as measured during memory and learning tasks²



FEEDING GUIDELINES

Body weight (kg)	g/day <1h activity	g/day 1 to 3h activity
1-5kg	30-90	35-105
5-10kg	90-145	105-170

INGREDIENTS: Chicken (15%), Dehydrated poultry protein, Wheat, Rice (12%), Maize, Maize gluten meal, Vegetable oil fractions, Dried beet pulp, Soya meal, Wheat gluten meal, Minerals, Animal fat, Fish oil, Digest, Yeast.

SMALL & MINI ADULT 9+ WITH OPTIAGE™

Key nutrient values (as fed)	Dry
Moisture	8%
Protein	29%
Fat	15%
- Omega-6 fatty acids	1.9%
- Omega-3 fatty acids	0.3%
Carbohydrate	38.5%
Crude fibre	2%
Calcium	1.27%
Phosphorus	0.93%
Vitamin A	38000 IU/ kg
Vitamin D3	1200 IU/ kg
Vitamin E	650 IU/ kg
Vitamin C	165 mg/ kg
Metabolisable energy (ME)*	3.6 kcal/g

* Calculated using modified Atwater's factors.

2. Pan Y, et al. (2018). Cognitive enhancement in old dogs from dietary supplementation with a nutrient blend containing arginine, antioxidants, B vitamins and fish oil. Br J Nutr. Feb;119(3):349-358.2.

PURINA® PRO PLAN® MEDIUM & LARGE ADULT 7+ WITH OPTIAGE™

Specially formulated to support cognitive function in senior dogs

KEY BENEFITS

SUPPORTS COGNITIVE FUNCTION



With an alternative brain energy source fractionated from botanical oils resulting in a more curious and responsive dog

SUPPORTS BETTER SOCIAL INTERACTION



Helps maintain interaction with his family thanks to improved brain function

MAINTAINS HEALTHY MOBILITY



It contains EPA, an omega-3 fatty acid, and glucosamine to help support joint health and mobility

PURINA® PRO PLAN® MEDIUM & LARGE ADULT 7+ WITH OPTIAGE



Clinically proven to enhance brain function in ageing dogs
Visible results in 30 days

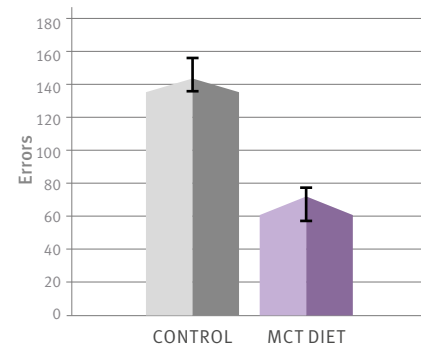
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Graph shows Dogs fed MCTs had improved cognitive function as measured during memory and learning tasks²



FEEDING GUIDELINES

Body weight (kg)	g/day <1h activity	g/day 1 to 3h activity
10-25kg	145-270	170-310
25-35kg	270-340	310-390
35-45kg	340-400	390-460
45-70kg	400-540	460-620

INGREDIENTS: Chicken (15%), Dehydrated poultry protein, Wheat, Rice (12%), Maize, Maize gluten meal, Vegetable oil fractions, Dried beet pulp, Soya meal, Wheat gluten meal, Minerals, Animal fat, Fish oil, Digest, Yeast.

MEDIUM & LARGE ADULT 7+ WITH OPTIAGE™

Key nutrient values (as fed)	Dry
Moisture	8%
Protein	29%
Fat	15%
- Omega-6 fatty acids	1.9%
- Omega-3 fatty acids	0.3%
Carbohydrate	38.5%
Crude fibre	2%
Calcium	1.37%
Phosphorus	0.93%
Vitamin A	38000 IU/ kg
Vitamin D ₃	1200 IU/ kg
Vitamin E	650 IU/ kg
Vitamin C	165 mg/ kg
Metabolisable energy (ME)*	3.6 kcal/g

* Calculated using modified Atwater's factors.

2. Pan Y, et al. (2018). Cognitive enhancement in old dogs from dietary supplementation with a nutrient blend containing arginine, antioxidants, B vitamins and fish oil. Br J Nutr. Feb;119(3):349-358.2.

PURINA® PRO PLAN® STERILISED ADULT WITH OPTISENSES™

Proven to nourish cat's brain for vital senses support

KEY BENEFITS



Formulation specially developed to promote healthy kidneys



Maintains urinary health in neutered cats



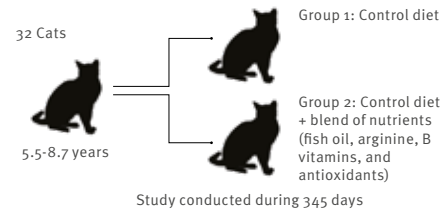
Helps maintain a healthy body weight

PURINA® PRO PLAN® STERILISED ADULT WITH

OPTISENSES



PROVEN RESULTS



Study

- In a new study, 32 cats between 5.5 and 8.7 years were collected and divided in to two groups, one with a control diet and the other with the same control diet enriched with a blend of nutrients (fish oil, arginine, B vitamins, and antioxidants).

The context

- The study was conducted over 345 days, during this time, different types of cognitive tests were performed, testing the following abilities: visio-spatial learning, memory, problem solving, and reasoning.

The results

- Showed a better performance in most of the cognitive tests protocol in the cats supplemented with the specific blend of nutrients (SBN) compared to the cats fed the control diet.

The conclusion

- By nourishing the brain with SBN the cats were able to perform many tasks, which required the cats to use their senses, significantly better than cats fed a control diet. Collectively, these results indicate that the SBN diet has global cognitive benefits in cats.³

FEEDING GUIDELINES

Cat Weight	Quantity
2-4kg	25-55g
4-6kg	55-80g
6-8kg	80-110g

COMPOSITION: Salmon (19%), dehydrated poultry protein, rice, maize gluten meal, wheat gluten meal, maize, wheat fibre, cellulose, minerals, dried egg, animal fat digest, yeast, fish oil.

STERILISED ADULT WITH OPTISENSES™

Key nutrient values (as fed)	Dry
Moisture	6%
Protein	41%
Fat	12%
- Omega-6 fatty acids	1.68%
- Omega-3 fatty acids	0.71%
Carbohydrate	38.5%
Crude fibre	4%
Calcium	1.23%
Phosphorus	1.03%
Vitamin A	36000 IU/ kg
Vitamin D3	1100 IU/ kg
Vitamin E	670 IU/ kg
Vitamin C	160 mg/ kg
Metabolisable energy (ME)*	3.76 kcal/g

* Calculated using modified Atwater's factors.

3. Pan Y, Araujo JA, Burrows J, de Rivera C, Gore A, Bhatnagar S, Milgram NW. (2013). Cognitive enhancement in middle-aged and old cats with dietary supplementation with a nutrient blend containing fish oil, B vitamins, antioxidants and arginine. *Br J Nutr.* **110**(1):40-9.

PURINA® PRO PLAN® ORIGINAL ADULT WITH OPTISENSES™

Proven to nourish cat's brain for vital senses support

KEY BENEFITS



Formulation specially developed to promote healthy kidneys



Supports a healthy immune system

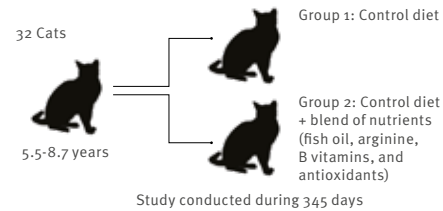


Helps protect teeth from plaque and tartar build-up

PURINA® PRO PLAN® ORIGINAL ADULT WITH OPTISENSES



PROVEN RESULTS



Study

- In a new study, 32 cats between 5.5 and 8.7 years were collected and divided in to two groups, one with a control diet and the other with the same control diet enriched with a blend of nutrients (fish oil, arginine, B vitamins, and antioxidants).

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FEEDING GUIDELINES

Cat Weight	Quantity
2-4kg	30-60g
4-6kg	60-90g
6-8kg	90-120g

COMPOSITION: Salmon (18%), dehydrated poultry protein, wheat, rice, maize gluten meal, wheat gluten meal, animal fat, dried egg, maize, minerals, dried chicory root, cellulose, digest, yeast, fish oil.

ORIGINAL ADULT WITH OPTISENSES™

Key nutrient values (as fed)	Dry
Moisture	6%
Protein	36%
Fat	16%
- Omega-6 fatty acids	2.05%
- Omega-3 fatty acids	0.75%
Carbohydrate	32%
Crude fibre	2.5%
Calcium	1.04%
Phosphorus	1.01%
Vitamin A	37000 IU/ kg
Vitamin D3	1200 IU/ kg
Vitamin E	670 IU/ kg
Vitamin C	140 mg/ kg
Metabolisable energy (ME)*	4.1 kcal/g

* Calculated using modified Atwater's factors.

3. Pan Y, Araujo JA, Burrows J, de Rivera C, Gore A, Bhatnagar S, Milgram NW. (2013). Cognitive enhancement in middle-aged and old cats with dietary supplementation with a nutrient blend containing fish oil, B vitamins, antioxidants and arginine. *Br J Nutr.* **110**(1):40-9.



Committed to provide a simple and effective nutritional solutions for brain health.

To find out more information, please contact your PURINA representative.