Age associated memory impairment

Lacprodan® PL-20

www.arlafoodsingredients.com
Arla Foods Ingredients can provide you with Lacprodan® PL-20 that may alleviate age associated memory impairment (AAMI).

Lacprodan® PL-20 is a well-tasting milk protein concentrate with a high content of natural bioactive sphingomyelin and phospholipids, especially phosphatidyl serine, from bovine milk (Table 1).
Age associated memory impairment
Lacprodan® PL-20

Table 1. Phospholipids in different food sources

<table>
<thead>
<tr>
<th></th>
<th>Soya</th>
<th>Egg</th>
<th>Milk</th>
<th>Lacprodan®PL-20</th>
<th>Lacprodan® PL-20</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of total Phospholipids</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sphingomyelin</td>
<td>0.0</td>
<td>1.5</td>
<td>24.0</td>
<td>27.0</td>
<td>4.3</td>
</tr>
<tr>
<td>Phosphatidyl choline</td>
<td>34.0</td>
<td>75.0</td>
<td>27.0</td>
<td>27.0</td>
<td>4.3</td>
</tr>
<tr>
<td>Phosphatidyl ethanolamine</td>
<td>21.0</td>
<td>15.0</td>
<td>25.0</td>
<td>22.0</td>
<td>3.5</td>
</tr>
<tr>
<td>Phosphatidyl serine</td>
<td>0.5</td>
<td>0.0</td>
<td>12.0</td>
<td>12.0</td>
<td>1.9</td>
</tr>
<tr>
<td>Phosphatidyl inositol</td>
<td>18.0</td>
<td>0.4</td>
<td>8.0</td>
<td>8.0</td>
<td>1.3</td>
</tr>
<tr>
<td>Others</td>
<td>26.5</td>
<td>8.5</td>
<td>4.0</td>
<td>4.0</td>
<td>0.7</td>
</tr>
</tbody>
</table>

Modified from Burling and Graverholt, 2008

AGE ASSOCIATED MEMORY IMPAIRMENT
We are getting older worldwide, and the number of people above 65 years is growing. Along with living longer, comes the risk of decline in cognitive performance (Figure 1).

MEMORY DECLINE
During ageing, the concentration of phosphatidyl serine in the brain declines, but also the neuronal membrane in the brain somewhat changes in composition and function. These changes may result in a declined memory and cognitive function. Cognitive impairment is believed to be influenced by nutritional factors, as phosphatidyl serine, which has been investigated in relation to cognitive impairment.

It seems that phosphatidyl serine has an effect on the mammalian brain that enhances brain functioning and attenuates age-related deficits in learning and memory in a variety of animal paradigms. But results have also shown that an intake of 300 mg phosphatidyl serine per day for a period of 6 months brings about significant improvements in elder adults with moderate to severe cognitive impairment both in terms of behaviour and cognitive parameters.

RECOMMENDED DOSAGE
To attenuate age associated memory impairment, a daily dosage of 16 g Lacprodan® PL-20 is recommended.

APPLICATION
Lacprodan® PL-20 may be used in several applications such as milky beverages, milk, yoghurt, bars and puddings. Furthermore, Lacprodan® PL-20 may be UHT treated.

CONCLUSION
Lacprodan® PL-20 is a natural source of milk phospholipids with a pleasant taste. The product has a unique composition of phospholipids, especially phosphatidyl serine that has been found to alleviate memory decline during ageing.
REFERENCES