

## Cognitive Function Abstracts

### Normal Cognitive Function

- **Morris et al. Arch Neurol 2005,62:1-5**

Strong data from a US cohort supports relationship between decreased cognitive decline and fish intake.

- **Kalmijn et al Neurology, 2004, 62:275-80**

Data from EU cohorts suggests relationship between DHA and cognitive function.

### DHA in Alzheimer's and Dementia

- **Morris et al. Archives of Neurology 2003;60:940-46**

A prospective study examining whether fish consumption and intake of different omega-3 fatty acids protect against Alzheimer's disease. 815 subjects aged from 65-94 and were initially unaffected by Alzheimer disease were studied.

**Findings:** Increased DHA from fish consumption reduced risk of Alzheimer's disease. No such relationship with ALA or EPA and reduced risk of Alzheimer's Disease.

- **Schaefer et al. Archives of Neurology 2006;63:1545-50**

A prospective follow-up study with 899 men and women free of dementia, average age 76. Followed up for 9.1 years for the development of all-cause dementia and Alzheimer's disease.

**Findings:** Highest plasma DHA correlated with 47% reduced risk of all cause dementia among subjects. No benefit from plasma EPA or ALA. Beneficial DHA intake estimated at 180mg.

- **Calon et al. Neuron 2004;43:633-45**

Preclinical study. 17 month old mice fed for 103 +/- 5 days a control diet low in DHA versus one supplemented with Martek's DHA.

**Findings:** Dietary DHA supplemented mice had a 70% reduction in insoluble plaque, 25% reduction in amyloid plaque burden-both diagnostic indicators of Alzheimer's disease. Resulted in improvements in learning and memory.

- **MacLean et al, 2005 AHRQ Report #114**

An expert panel was established to review the existing evidence on the effects of omega-3 fatty acid consumption on cognitive function, dementia and neurological disease.

**Findings:** Total omega-3 fatty acid consumption and consumption of DHA (but not ALA or EPA) are associated with a significant reduction in the incidence of Alzheimer's.

- **Ma et al. J Neuroscience. 2007 Dec 26:27(52):14299-307**

Preclinical study using a mouse model, a diabetic rat model and cultured human cells. Martek's DHA was supplemented for part of this study.

**Findings:** DHA was found to decrease an important risk factor for late onset Alzheimer's disease. DHA increased the production of LR11, a protein vital to clearing the brain of the enzymes that make the beta amyloid plaques that are used as diagnostic indicators for Alzheimer's disease.