December 2020

1. According to a research team led by the University of Pittsburgh, elderly Japanese men and women who produce equol — a metabolite of dietary soy created by certain types of gut bacteria — display lower levels of white matter lesions within the brain. The researchers found 50% more white matter lesions in people who cannot produce equol compared to people who can produce it. The researchers found that while equol production did not appear to impact levels of amyloid beta deposited within the brain, it was associated with reduced white matter lesion volumes.
https://www.labonline.com.au/content/life-scientist/news/bacterial-metabolism-of-soy-may-lower-dementia-risk-788506302

2. Research suggest that a gene that plays a role in neuronal signaling in the brain, ATP6V1A, is under expressed in many cases of late-onset Alzheimer's disease. Scientists say they have identified a drug compound they think could be used to boost levels of expression of the gene and target the neurodegenerative symptoms seen in Alzheimer's disease. Their research also showed that repression of the ATP6V1A protein had a worse neurological impact when combined with β-amyloid and tau protein, build-up of which is commonly seen in the brains of people with Alzheimer's disease.
https://www.clinicalomics.com/topics/patient-care/neurological-disorders/multi-omic-analysis-reveals-possible-treatment-for-late-onset-alzheimers-disease/

3. Researchers in the U.S. report they have reversed elevated levels of harmful genes that cause memory deficits in Alzheimer's disease, by focusing on gene changes caused by epigenetic processes (those that are not related to changes in DNA sequences) such as aging. Those epigenetic changes are linked to the abnormally high level of histone-modifying enzymes that catalyze the modification known as H3K4me3. The researchers found that when the AD mouse models were treated with a compound that inhibits those enzymes, they exhibited significantly improved cognitive function.
http://www.buffalo.edu/ubnow/stories/2020/12/yan-alzheimers.html

4. New research from California, suggests older women who live in locations's with higher levels of air pollution may have more brain shrinkage, the kind seen in Alzheimer's disease, than women who live in locations with lower levels. The

study looked at fine particle pollution and found that breathing in high levels of this kind of air pollution was linked to shrinkage in the areas of the brain vulnerable to Alzheimer's disease. The study involved 712 women with an average age of 78 who did not have dementia at the start of the study. All women received MRI brain scans at the start of the study and five years later. For each 3 µg/m3 increase in air pollution exposure levels, researchers found greater extent of brain shrinkage over five years, which was equivalent to a 24% increased risk of Alzheimer's disease.
https://www.sciencedaily.com/releases/2020/11/201118161133.htm

5. Researchers from IOWA State University claim daily consumption of cheese and red wine, and lamb on a weekly basis, may improve long-term cognitive outcomes. They found that cheese was particularly helpful in protecting against age-related cognitive problems; daily consumption of alcohol, especially red wine, improves cognitive function; eating lamb (but not other red meat) on a weekly basis appears to be helpful.While the researchers were unable to pinpoint exact reasons for this protective effect, they cite calcium, vitamin B12, gut-friendly bacteria, and lactopeptides in cheese as potential candidates.
https://bigthink.com/surprising-science/cognitive-decline-diet?rebelltitem=2#rebelltitem2