Natural Alternative Use Case  
(Kei Cheung and Jun Zhao)

• Explore how patients might use multilingual social and semantic bookmarking tools for finding and sharing Web resources for natural alternatives for disease treatment

• **Ginkgo biloba** is an herb that has been used as a natural supplement for treating Alzheimer disease

• **Faviki** is a social and semantic bookmarking tool supporting different languages
Part 1:
Ginkgo biloba -- a natural supplement for treating Alzheimer Disease
Resources for Finding Alternative Treatment of Alzheimer Disease
(e.g., http://www.alzforum.org)
银杏

银杏（学名：Ginkgo biloba），又名白果，是一种孑遗植物，和它同门的所有其他植物都已灭绝。

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历史

和它相生的植物在两亿七千年前就已经生成，属于银杏门。在大约一亿多年前的侏罗纪后期，银杏类广泛分布于地球上。而现在的银杏是这类植物
Ginkgo (Ginkgo biloba L.)

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Ginkgo biloba has been used medicinally for thousands of years. Today, it is one of the top selling herbs in the United States.

Ginkgo is used for the treatment of numerous conditions, many of which are under scientific investigation. Available evidence demonstrates ginkgo's efficacy in the management of intermittent claudication, Alzheimer's multi-infarct dementia, and "cerebral insufficiency" (a syndrome thought to be secondary to atherosclerotic disease, characterized by impaired concentration, confusion, decreased physical performance, fatigue, headache, dizziness, depression, and anxiety).

Although not definitive, there is promising early evidence favoring the use of ginkgo for memory enhancement in healthy subjects, altitude (mountain) sickness, symptoms of premenstrual syndrome (PMS), and reduction of chemotherapy-induced end-organ vascular damage.

Although still controversial, a recent large trial has shifted the evidence against the use of ginkgo for tinnitus.

The herb is generally well tolerated, but due to multiple case reports of bleeding, should be used cautiously in patients on anticoagulant therapy, with known coagulopathy, or prior to some surgical or dental procedures.

Synonyms Return to top

Adiantofolia, AKL1, arbre aux quatre ècus, ArginMax®, bai guo ye, bai guo, BioGinkgo®, Blackmores Ginkgo Brahmi ( Bacopa monniera ), BN-52063, duck foot tree, EGB, EGB 761, Elefantentehr, Eun-haeng, fachernstäbchen, Fossil tree, GBE, GBE 24, GBX, ging-han, ginan, Gincosan®, Ginerix Reminerv® Gingopren®, Ginkt®, ginkgo balm, Ginkgo biloba blätter, Ginkgo biloba exocarp polysaccharides (SEEP), Ginkgo folium, Ginkgo Gold®, Ginkgo Phytosome®, Ginkgo Powder®, Ginkgoaceae (family), ginkgoblätter.
Medline Plus (cont’d)

Side Effects and Warnings
Overall, ginkgo leaf extract (used in most commercial products) appears to be well tolerated in most healthy adults at recommended doses for up to six months. Minor symptoms including headache, nausea, and intestinal complaints have been reported.

Bleeding has been associated with the use of ginkgo taken by mouth, and caution is advised in patients with bleeding disorders or taking drugs/herbs supplements that may increase the risk of bleeding. Dosing adjustments may be necessary. Ginkgo should be stopped prior to some surgical or dental procedures. Reports of bleeding range from nose bleeds to life-threatening bleeding in several case reports. In some of these reports, ginkgo has been used with other agents that may also cause bleeding.

Eating the seeds is potentially deadly, due to risk of tonic-clonic seizures and loss of consciousness.

Based on human study, ginkgo may theoretically affect insulin and blood sugar levels. Caution is advised in patients with diabetes or hypoglycemia, and in those taking drugs, herbs, or supplements that affect blood sugar. Serum glucose levels may need to be monitored by a healthcare professional, and medication adjustments may be necessary.

There have been uncommon reports of dizziness, stomach upset, diarrhea, vomiting, muscle weakness, loss of muscle tone, restlessness, racing heart, rash, and irritation around the mouth with the use of ginkgo. There is a case report of "coma" in an elderly Alzheimer's patient taking trazodone and ginkgo, although it is not clear that ginkgo was the cause. Based on laboratory and human research, ginkgo may decrease blood pressure, although there is one report of ginkgo possibly raising blood pressure in a person taking a thiazide diuretic ("water pill"). Based on theory, high concentrations of ginkgo may reduce male and female fertility. Contamination with the drug colchicine has been found in commercial preparations of Ginkgo biloba.

Ginkgo may affect the outcome of electroconvulsive therapy (ECT). Adverse effects on the eyes have also been reported.

Pregnancy and Breastfeeding
Use of ginkgo is not recommended during pregnancy and breastfeeding due to lack of reliable scientific study in this area. The risk of bleeding associated with ginkgo may be dangerous during pregnancy.

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Most herbs and supplements have not been thoroughly tested for interactions with other herbs, supplements, drugs, or foods. The interactions listed below are based on reports in scientific publications, laboratory experiments, or traditional use. You should always read product labels. If you have a medical condition, or are taking other drugs, herbs, or supplements, you should speak with a qualified healthcare provider before starting a new therapy.

Interactions with Drugs
Overall, controlled trials of ginkgo report few adverse effects and good tolerance, with rates of complications similar to placebo. However, use of ginkgo with drugs that may cause bleeding may further increase the risk of bleeding, based on multiple case reports of spontaneous bleeding in patients using ginkgo alone, with warfarin (Coumadin®), or with aspirin. One case report documents a possible increase in bleeding risk with ticlopidine (Ticlid®) and ginkgo. Examples of drugs that may increase the risk of bleeding include
ClinicalTrials.gov
(http://clinicaltrials.gov/ct2/show/NCT00010803?term=dekosky&rank=1)

Ginkgo Biloba Prevention Trial in Older Individuals

This study is ongoing, but not recruiting participants.

<table>
<thead>
<tr>
<th>Sponsors and Collaborators:</th>
<th>National Center for Complementary and Alternative Medicine (NCCAM)</th>
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<td>National Institute of Neurological Disorders and Stroke (NINDS)</td>
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<tr>
<td>ClinicalTrials.gov Identifier:</td>
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**Purpose**

This study will determine the effect of 240mg/day Ginkgo biloba in decreasing the incidence of dementia and specifically Alzheimer's disease (AD), slowing cognitive decline and functional disability, reducing incidence of cardiovascular disease, and decreasing total mortality.

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<tr>
<th>Condition</th>
<th>Intervention</th>
<th>Phase</th>
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<tbody>
<tr>
<td>Dementia</td>
<td>Drug: Ginkgo biloba</td>
<td>Phase III</td>
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<tr>
<td>Alzheimer's Disease</td>
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Genetics Home Reference related topics: Alzheimer disease

MedlinePlus related topics: Alzheimer's Disease Dementia

This has link to MedlinePlus’s alzheimer’s disease and dimentia (but not to ginkgo biloba)
This study was published in a PubMed article.
Ginkgo biloba for prevention of dementia: a randomized controlled trial.


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CONTEXT: Ginkgo biloba is widely used for its potential effects on memory and cognition. To date, adequately powered clinical trials testing the effect of G. biloba on dementia incidence are lacking. OBJECTIVE: To determine effectiveness of G. biloba vs placebo in reducing the incidence of all-cause dementia and Alzheimer disease (AD) in elderly individuals with normal cognition and those with mild cognitive impairment (MCI). DESIGN, SETTING, AND PARTICIPANTS: Randomized, double-blind, placebo-controlled clinical trial conducted in 5 academic medical centers in the United States between 2000 and 2008 with a median follow-up of 6.1 years. Three thousand sixty-nine community volunteers aged 75 years or older with normal cognition (n = 2587) or MCI (n = 482) at study entry were assessed every 6 months for incident dementia. INTERVENTION: Twice-daily dose of 120-mg extract of G. biloba (n = 1545) or placebo (n = 1524). MAIN OUTCOME MEASURES: Incident dementia and AD determined by expert panel consensus. RESULTS: Five hundred twenty-three individuals developed dementia (246 receiving placebo and 277 receiving G. biloba) with 92% of the dementia cases classified as possible or probable AD, or AD with evidence of vascular disease of the brain. Rates of dropout and loss to follow-up were low (6.3%), and the adverse effect profiles were similar for both groups. The overall dementia rate was 3.3 per 100 person-years in participants assigned to G. biloba and 2.9 per 100 person-years in the placebo group. The hazard ratio (HR) for G. biloba compared with placebo for all-cause dementia was 1.12 (95% confidence interval [CI], 0.94-1.33; P = .21) and for AD, 1.16 (95% CI, 0.97-1.39; P = .11). G. biloba also had no effect on the rate of progression to dementia in participants with MCI (HR, 1.13; 95% CI, 0.85-1.50; P = .39). CONCLUSIONS: In this study, G. biloba at 120 mg twice a day was not effective in reducing either the overall incidence rate of dementia or AD incidence in elderly individuals with normal cognition or those with MCI. Trial Registration clinicaltrials.gov Identifier: NCT00010803.
By Mary Brophy Marcus, USA TODAY

Hopes have been dashed once and for all that the dietary supplement ginkgo biloba can protect against age-related dementia and the memory-destroying disease Alzheimer's, according to a large government-funded study out today.

In the largest clinical trial ever to evaluate the impact of ginkgo biloba supplements on the development of dementia, the results have come up flat, says study author Steven DeKosky, vice president and dean of the University of Virginia School of Medicine. DeKosky's research appears in this week's Journal of the American Medical Association.

This news article was based on a study published in JAMA (see the previous PubMed article)
Part 2: Faviki
Faviki (http://www.faviki.com)

• a social bookmarking tool that allows everybody to use Wikipedia terms as their tags
• tags are drawn from a pool of controlled terms
• support multilingual tagging
• a case study for the W3C Semantic Web Activity
The social bookmarking

Ginkgo biloba

Ginkgo biloba and donepezil: a comparison in the t...[Eur J Neurol. 2006] - PubMed Result

Acetylcholine receptor, Alzheimer's disease, donepezil, Ginkgo biloba

Alzheimer's FINAL.pdf (application/pdf Object)

Complementary, donepezil, Evaluation, Ginkgo biloba, Memantine

Ginkgo biloba doesn't block Alzheimer's - USATODAY.com

This is a news article on a recently published large research/clinical study whose findings suggested that there was no significance between late-stage AD patients taking the ginkgo biloba supplement vs. those taking the placebo.

The Use of Herbal Medicine in Alzheimer’s Disease—A Systematic Review -- Santos-Neto et al. 3 (4): 441 -- Evidence-based Complementary and Alternative Medicine
The social bookmarking

Multilingual tagging
The multilingual tagging

- Users configure their native languages in their Faviki accounts
- When loading a web page, Faviki uses Google AJAX Language API to translate the page
- Uses Zemanta API to auto-suggest wikipedia terms for tagging
- Uses DBPedia to find tags in users' native language

Ref: http://faviki.wordpress.com/
A user's story

• If I register myself with Chinese being my native language
• Even if I used an English term to tag my page, e.g. Alzheimer's Disease, my tag cloud will only preserve the Chinese version of that term “阿兹海默病”, see http://www.faviki.com/person/jun.zhao
• Can be a problem when doing the query:
  – If I search for everything about “Ginkgo biloba”, pages **only** tagged with “银杏”, the Chinese name for Ginkgo biloba, **will not** be returned
Use tagging results

- Search tags
- HTTP request:
  - http://www.faviki.com/tag/Ginkgo_biloba
  - Only returns a HTML page
- Faviki API
  - Under testing phase: http://faviki.wikia.com/wiki/API
  - Save/Edit tags, but not querying tags
  - Wishlist: being able to retrieve/download tags in RDF format