Atlas · by Organic · 28 October 2026

What we found

An easy-read report about Atlas's first 4 datasets

Read online with reading tools at microbiologyatlas.com/reports/what-we-found.

How to use this report

Press **A+** to make the words bigger.

Press **High contrast** to make the page black and white.

Press **Listen** to hear a part read out loud.

Hard words are explained in Words to know at the end.

A small number like [1] shows where a fact comes from. The list of sources is at the end.

The big message

We looked at research on mushrooms, head injuries and SI. **This report covers only the studies we looked at.** There is more research in the world, and there may be studies we have not found yet.

Mushrooms are still open ground for research. Chinese medicine has used mushrooms like reishi for nearly 2,000 years. [1] Science is only starting to test them.

In the studies we looked at, most mushroom research was on cells in a dish or on animals. The early results give real reasons for hope. Testing in people is the next step.

Superintelligence (SI) can really help many disabled people.

But SI makes mistakes. **A person should always check** anything important.

How sure can we be?

A **dataset** is a collection of facts from research, put in order so people can check them.

Some research is stronger than other research. We use 4 levels:

Lab. Tested on cells in a dish. This is the weakest kind.

Animal. Tested on mice or rats.

People, small. Tested with a small group of people.

People, large. Tested with a large group of people. This is the strongest kind. The mushroom studies we looked at have not reached this level yet. **That is the next step for research.**

Dataset 1: Mushrooms, germs and nerves

What we looked at

21 mushrooms and lichens. A **lichen** is a fungus living together with a tiny plant-like partner.

We asked 3 questions. Do they fight bacteria? Do they fight viruses? Do they protect nerves?

We found **42 results** from 64 sources.

How strong are the 42 results?

32 lab results

5 animal results

5 small studies in people

0 large studies in people

What we found

Nerves. Lion's mane helped memory in 30 older adults over 16 weeks. The benefit faded 4 weeks after they stopped.[2] Snow fungus helped memory in 75 adults over 8 weeks.[3]

Viruses. A turkey tail gel helped some cervical sores heal. It did not clearly clear the virus (HPV).[4] Maitake did not stop people catching colds.[5]

Bacteria. Almost all results were in a dish. A lichen called usnea stopped the germ MRSA in a dish and in mice.[6]

Safety. Some products have harmed people, mostly in large amounts or concentrated forms. Two people had serious liver injury after switching from boiled reishi to reishi powder for 1 to 2 months. Boiled reishi had caused them no problems. The reports do not say how much powder they took.[7] One man's kidneys failed after he took chaga powder every day for 5 years: 3 grams a day for 4 years, then 9 grams a day.[8]

How much is a normal amount? A normal serving of fresh mushrooms in the US is 84 grams.[9] Fresh mushrooms are mostly water, so a few grams of dried powder is far more concentrated. In the lion's mane memory study, people took about 3 grams of dried mushroom a day for 16 weeks. Lab tests showed no harm.[2]

The full dataset is at microbiologyatlas.com/datasets/mushrooms.

Dataset 2: People working with and without SI

This dataset is not finished.

We have a plan with 7 steps. The question is: do people do better work with SI help? And when does SI make work worse?

We have no findings yet. We will not guess.

Dataset 3: Mushrooms and head injury

If someone hits their head, get medical help.

Go to the emergency room straight away if they:

- have a headache that gets worse
- keep being sick (vomiting)
- have a seizure
- slur their words, or feel weak or numb
- seem confused or act strangely
- do not know people or places
- cannot stay awake
- have one pupil bigger than the other.[10]

What we looked at

5 mushrooms and 16 results. **In the studies we found, every mushroom result was in rats or mice.** These are early steps, and they point in a hopeful direction.

What we found

Lion's mane protected brain cells and calmed swelling in rats and in mice. Two different teams found this.[11] [12]

Turkey tail helped too, most of all together with lion's mane.[12]

Reishi reduced brain swelling and damage in rats.[13]

A cordyceps compound called **cordycepin** protected the brain in mice. It was injected, not eaten.[14]

Psilocybin, from "magic mushrooms", reduced brain swelling in rats. Other scientists have not checked this study yet.[15]

What about people?

For lion's mane, turkey tail, reishi and cordyceps, we did not find studies in people after a head injury. **That is an open door for future research.**

How much did the animals get? Scaled to an adult with the FDA's standard method, the lion's mane amounts equal about 1 to 2 grams of mycelium a day.[16] [11] That is close to the 3 grams a day people took safely in the memory study.[2] Cordycepin and psilocybin were given as pure compounds, not as food.

One athlete said psilocybin mushrooms helped him. One person's story cannot prove it worked, but it is a reason to study it.[17]

Two studies of psilocybin for long-lasting concussion problems have started.[18] [19]

Psilocybin is illegal under US federal law.[20]

The full dataset is at microbiologyatlas.com/datasets/head-injury.

Dataset 4: How SI can help disabled people

Superintelligence (SI) means advanced computer programs that can write, talk, see or answer questions.

We looked at **10 studies** about SI and disability. Each card shows what helped, what to be careful about, and how much we know.

See

Blind and low vision people

Helps

\+ **What helped:** Of 76 people who commented on a picture-describing SI app, almost all (99%) said good things. Some called it a 'game changer'. They liked it for reading labels and menus and describing things.

! **Be careful:** Most people (69%) said whether they want SI or a human helper depends on the task. Only 3% always prefer SI. [29]

●●○ How much we know: **Some**

See

Blind and low vision people

Be careful

\+ **What helped:** SI apps can describe the world around you.

! **Be careful:** The apps made mistakes with tables, dates, forms and non-English text. People checked the answers by touch, by sound, by asking a sighted person or by trying a second app. Most used SI only for low-risk tasks. [21]

●●○ How much we know: **Some**

Speak

People with speech disabilities

Helps

+ **What helped:** Speech recognition trained on a person's own voice understood them much better. For severely affected speech, mistakes on short phrases fell from about 89 in 100 words to 13 in 100.

! **Be careful:** It needs many voice recordings from each person, and it was tested mostly on read-out phrases, not everyday talk. [30]

●●● How much we know: **More**

Type and talk

People with ALS who type with their eyes

Helps

+ **What helped:** An SI that guesses whole phrases helped two people with ALS type 29% to 60% faster.

! **Be careful:** Only two people with ALS tried it, so we cannot be sure it works for everyone. [31]

●○○ How much we know: **A little**

Read and write

Adults with dyslexia

Mixed

\+ **What helped:** 19 adults with dyslexia rated an SI email helper as useful (about 5.5 out of 7). Rewriting a chosen sentence was the favourite feature.

! **Be careful:** It sometimes made things up, long lists of choices felt overwhelming, and 7 people worried about privacy. The researchers said the SI was not reliable enough yet. [24]

●●○ How much we know: **Some**

Everyday tasks

Researchers with and without disabilities

Mixed

\+ **What helped:** SI saved effort on some tasks, like formatting references. It helped an autistic researcher write work messages.

! **Be careful:** Summaries were sometimes wrong. SI could not reliably make documents accessible. A blind researcher could not check the code it wrote. Some answers quietly changed meaning in unfair ways. [32]

●○○ How much we know: **A little**

Hear

Deaf and hard of hearing people

Helps

+ **What helped:** When SI helped human captioners fix their mistakes, captions were 89% accurate. Human captioners alone were 83% accurate and SI alone 72%.

! **Be careful:** Only 3 deaf or hard of hearing people tried it, and the study is not finished.[25]

●○○ How much we know: **A little**

Easy read

People who need easy-read text

Early

+ **What helped:** SI can be trained to turn hard text into easy-read text, and sometimes did this better after training.

! **Be careful:** It was not tested with the people who need easy read. The researchers said they need much more data.[33]

●○○ How much we know: **A little**

Work

Neurodivergent workers (for example ADHD, autism, dyslexia)

Helps

+ **What helped:** This was a UK government trial. Neurodivergent staff were more likely to be happy with an SI assistant and to recommend it. One person with ADHD said it 'levelled the playing field'.

! **Be careful:** Overall, the trial did not find that people got more work done. About 1 in 5 users (22%) spotted made-up information.[22]

●●● How much we know: **More**

Fairness

Disabled job seekers

Risk

+ **What helped:** Written instructions telling the SI not to be unfair made it fairer for most disabilities.

! **Be careful:** The SI ranked job CVs that mentioned disability awards first only about a quarter of the time. For depression, the instructions did not help at all.[23]

●●○ How much we know: **Some**

Considerations to be careful about

SI can make things up. Check important things with a person or a second source.[21] [22]

SI can be unfair to disabled people.[23]

Think about privacy before you share personal things with SI.[24]

SI works best with people, not instead of them. Captions were best when SI and a human worked together.[25]

Written by Atlas, the SI · not yet checked by a person

What this means for Atlas. Atlas plans to:

- label everything SI writes, so you always know
- let people check and correct SI's work
- use plain words, big text, high contrast and read-aloud
- never use SI to judge people for jobs
- keep a person involved in every important decision.

Extra: flowers, and the mushroom version

An **inflorescence** is a cluster of flowers on a plant, like a chamomile flower head or elderflower.

Mushrooms do not have flowers. A mushroom is a fungus, not a plant. The part we see is the **fruiting body**. It releases spores, a bit like a flower leads to seeds. Underneath is the **mycelium**, a web of thin threads.

The part used can change the result. In one lab study of a Brazilian oyster mushroom, the fruiting body worked better than the mycelium against oxidation, swelling (inflammation) and germs.[26]

Studies use different parts. The lion's mane memory study used the dried fruiting body.[2] The lion's mane head injury studies used mycelium.[11] [12] Comparing parts is a good question for more research.

Flowers in herbal medicine. Flower clusters of plants like elderflower and hawthorn contain natural compounds called triterpenoids and sterols. Scientists study these compounds for health. This study measured the plants' chemistry, not effects in people.[27]

Chamomile flower heads were tested with 179 people with anxiety. People who kept taking chamomile kept their anxiety lower than people who switched to a dummy pill. Fewer had their anxiety come back (15% compared with 26%), but that difference could have been chance.[28]

An idea from Forest van Eeden, founder of Organic · not yet tested by research

"We may begin to see how inflorescence is related to the benefit from flowers and fruiting bodies like mushrooms. Perhaps, the location of the growth in the Earth is an indicator for where we can get benefits in our own bodies."

Words to know

Superintelligence (SI)

Advanced computer programs that can write, talk, see or answer questions.

Research

Careful testing to find out what is true.

Dataset

A collection of facts from research, put in order.

Bacteria and viruses

Tiny germs that can make people ill.

Lichen

A fungus living together with a tiny plant-like partner.

Concussion

A mild brain injury from a blow or jolt to the head.

Psilocybin

A drug found in "magic mushrooms". It is illegal under US federal law.

Captions

Words on a screen that show what people are saying.

ALS

An illness that slowly takes away the use of muscles, including for speaking.

Dyslexia

A difference in how the brain handles reading and spelling.

Neurodivergent

Having a brain that works differently, for example with ADHD, autism or dyslexia.

Mycelium

The web of thin threads a fungus grows, often under the ground.

Fruiting body

The part of a fungus we call a mushroom. It releases spores.

Inflorescence

A cluster of flowers on a plant, like a chamomile flower head.

Bias

Being unfair to some people without a good reason.

Privacy

Keeping your personal information safe.

Important

This is not medical advice. Talk to a doctor before taking any mushroom product.

Never eat a wild mushroom unless an expert has checked it in person. If someone may have eaten a poisonous mushroom, call Poison Control on 1-800-222-1222 (US).

This report is not all the research that exists. It covers the studies we looked at. New studies may change what we know.

SI changes fast. These studies are from 2021 to 2025. Today's SI tools may work differently.

Atlas's SI wrote this report. A person has not checked every fact yet. Please check the sources.

Sources

Where each fact comes from. Most links open research papers, which use harder words.

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