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REPORT

Turn Off Your Body's Aging "Switch"

By Morris Eagleton

In an important scientific advance, researchers have uncovered a biochemical "switch" that turns on many of the chronic diseases of aging.

The name of this newly identified "switch" is **HMGB1**, which stands for "***High Mobility Group Box-1***".

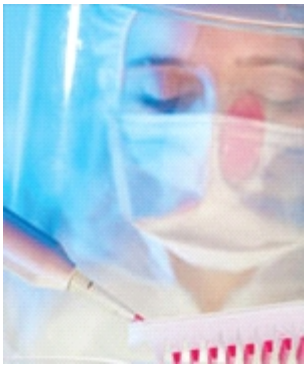
HMGB1 turns on the release of chemical signals called ***cytokines*** that generate inflammation in your body.[1]

The more **chronic inflammation** you have, the more rapidly your body ages. The tragic consequence of higher levels of **inflammation** is the acceleration of chronic diseases that cause premature death and disability.[1,2]

Once scientists uncovered the switch that "turns on" chronic inflammation, they began looking for a safe and effective means of "turning off" that switch.

Researchers have found two natural ingredients that can directly control **HMGB1**, thus reducing the body's exposure to **chronic inflammation**, and ultimately protecting against inflammation-induced disorders.[3,4]

HOW HMGB1 TRIGGERS INFLAMMATION



The molecule **HMGB1** is responsible for initiating acute inflammation, which is a helpful reaction when your body is under attack by germs, or following an injury.[5,6] Unfortunately, when a cell is damaged, its contents of HMGB1 leak out, leading to *chronic* inflammation.[5,6]

When HMGB1 leaks out, it acts as a "danger signal" that triggers the release of chemical signaling molecules (called cytokines) that call in more white blood cells, which release still more cytokines, in a vicious cycle.[1,5,6]

At its worst, this activity can result in a massive, systemic release of cytokines that can shut down your body's entire system.[7,8] The deadly SARS outbreak of 2003 is an example of a *cytokine storm*, where it appears victims died as a result of the body's overreaction to the SARS virus and not the virus itself.[9-11]

Fortunately, a true cytokine storm is rare. But the cumulative effects that result from HMGB1 slowly leaking from our aging cells are all too common.[6]

REVERSE CHRONIC INFLAMMATION!

Laboratory experiments have demonstrated that putting the brakes on **HMGB1** is a powerful means of slowing and reversing the

processes involved in inflammation.[3,4] In fact, scientists are examining the role of HMGB1 in the body and are using experimental models to begin making strides in the fight against inflammation in asthma, rheumatoid arthritis, diabetes, multiple sclerosis, and inflammatory bowel diseases.[12-20]

Big Pharma is frantically working to create treatments that target HMGB1, but at this point no anti-HMGB1 drug is anywhere near market-ready.[21]

The good news is that two natural substances, **mung bean** and an extract from **green tea,** have been found to suppress HMGB1—providing anti-inflammatory power.[3,4] And best of all, they're available in an oral form.

DUAL PROTECTION AGAINST CHRONIC INFLAMMATION

Mung bean and **green tea** extract combat inflammation by interfering at several different points in the cascade of events that leads to HMGB1 release from stressed or damaged cells.[3,4,22-25] Most of today's anti-inflammatory drugs only work on a single target point of inflammation.[26]

Nearly all of the mung bean's HMGB1-lowering action is found in the **seed coat** of the bean.[4] When fed to rats before or after exposure to heat stress, **mung bean seed coat** extract reduced blood markers of excessive oxidant stress, while also strengthening the body's natural antioxidant defense system.[27]

When cells are exposed to bacterial toxins, **EGCG** (the major beneficial component in green tea) reduces HMGB1 release from cells in direct proportion to the dose.[3] Importantly, EGCG has been found to drive down HMGB1 release even when given **2** to **6** hours *after* exposure of cells to the toxin.[3,24]

DRAMATIC STUDIES SHOW INCREASED LIFE SPAN!

Three recent studies demonstrate the dramatic life-saving ability of **mung bean seed coat** and **EGCG** from green tea leaf.[3,4,24]

They all involve ***sepsis***, a condition involving HMGB1 that kills hundreds of thousands of Americans every year in hospital intensive care units, despite modern antibiotics and life-saving technology.[28] (Sepsis is an illness in which the body has a severe, systemic inflammatory response to infection.[22])

In sepsis, HMGB1 triggers an outpouring of ***cytokines***. It is this resulting inflammation—*and not the infecting germ*—that ultimately kills the patient.[1,29,30] Once those cytokines are on the loose, it's typically too late to fight back with anti-cytokine therapies.[31-33]

With this in mind, researchers chose to study **mung bean seed coat** extract and **EGCG** from green tea leaf extract, based on their known anti-HMGB1 activities.

The researchers first induced sepsis in laboratory mice, dooming them to almost certain death without intervention.[3,4,24]

In one experiment, the mice orally received either EGCG, found in green tea, or a saline control at **24**, **48**, and**72** hours *after* the induction of sepsis.[24] By **day 2**, **44%** of the **control** mice survived, while **89%** of the EGCG group remained alive. By **day 5**, only **16%** of the control group survived, while **44%** of the EGCG group survived for the duration of the study.[24]

Next, the researchers studied **mung bean seed coat extract**.[4] Using the same experimental design as in the previous study, the mice were given the extract or a saline control the day after induction of sepsis. By **day 2**, only **53%** of control mice survived, while **82%** of those mice supplemented with mung bean coat remained alive. By **day 4**, only **29%** of the control group survived, while **70%** of the mung bean group remained alive.[4]

It's impossible to overstate the significance of these results. For the first time ever, septic shock was significantly prevented, and animals were rescued from an otherwise likely death, ***using a simple, natural, oral treatment***. The secret to these results was the sharp drop in HMGB1 levels induced by both EGCG and mung bean seed coat extract.[3,4,24]

SLOW DOWN THE AGING PROCESS

These studies demonstrate just how powerfully these two natural ingredients work even in the direst of situations. Fortunately, most of us will never have to deal with sepsis or the out-of-control inflammation that it can produce. But all of us face the dangers imposed by ***chronic inflammation***.

Both **EGCG** and **mung bean seed coat** extract can powerfully suppress HMGB1, reducing levels of total-body chronic inflammation.[3,4,24]

Reduced chronic inflammation can translate to longer and substantially healthier lives. In this way, mung bean seed coat extract and EGCG can slow down damaging aging processes and potentially prolong your life.

SUMMARY

Chronic inflammation accelerates aging and is an underlying factor in many of the diseases associated with aging.[1,2,34] Scientists have discovered a way to inhibit **HMGB1**, the molecule that "turns on" the release of **inflammatory cytokines**.[3-6,24]

Mung beans and **green tea** have been in use for thousands of years in traditional Chinese medicine.[3,4] They both contain powerful substances that inhibit **HMGB1**. Lab studies have proven that these substances are highly effective at "turning off" the HMGB1 switch that induces chronic inflammation.[3,4,24]

Mung bean seed coat extract and **EGCG** are available in oral form, making their combined ***HMGB1-blocking*** effect convenient to take by mouth.

If you have any questions on the scientific content of this article, please call a **Life Extension®** Health Advisor at 1-866-864-3027.

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