

Specialized Pro-Resolving Mediators

THIS WEEK'S TOPIC

"SPMs are present in cell membranes and stimulate the resolution of inflammatory processes in multiple ways."

We've known for many years the value that high dose fish oil has on multiple conditions. Most clinicians have seen the benefits of fish oil's anti-inflammatory nature in their patients. Reducing inflammation promotes healing on multiple levels. In the last 10 years, more research data is accumulating on the process of exactly how this anti-inflammatory process takes place, and technology has been developed to accelerate it.

You may be familiar with the term "Specialized Pro-Resolving Mediator." SPMs for short. SPMs are present in cell membranes, and as the name implies, stimulate the resolution of inflammatory processes in multiple ways. Inflammation, as you know, is a natural response to acute stressors like infection, trauma, burns, wounds or allergies, but if the stressor continues and is not resolved, chronic inflammation sets in, which places additional burden on the body as a whole and lengthens recovery. So, unresolved acute situations often end up in chronic



inflammatory conditions like arthritis, irritable bowel disease or colitis, neurodegeneration, autoimmunity, obesity, accelerated aging, as well as cardiometabolic conditions.

SPMs stimulate the completion of the inflammatory process by removing inflammatory debris, restoring a healthy immune response, clearing bacteria or other infections, stimulating wound repair, and supporting tissue regeneration.

Let's use this slide to clarify. All inflammation starts out as acute inflammation. When natural SPMs are present, inflammatory debris is cleared,

immune response is restored, bacteria or infection cleared, wounds are repaired, and tissue is regenerated. SPMs return the body to homeostasis. However, if SPMs are not available, inflammation is not resolved, and inflammation becomes chronic.

Chronic inflammation often leads to tissue and organ injury and chronic pain. Ultimately, tissue fibrosis sets in, and recovery stalls or stops. When SPMs are present, there is clean up and restoration. However, without SPMs, unresolved inflammation and breakdown are often the end result.

Now that we understand how SPMs work, let's go back to the beginning with EPA, DHA, and DPA. These familiar fatty acids are the starting point for the body to make SPMs. These essential fatty acids are acted upon by enzymes in our bodies to provide the PRECURSORS to make SPMs. Researchers call these PRECURSORS "Specialized Pro-Resolving Mediator Precursors." These PRECURSORS are then acted upon to make SPMs. As we get older, the quality and quantity of enzymes in our bodies decrease. Also, as we age, the precursors to make SPMs are reduced.

Fewer Enzymes = Fewer Precursors.
Fewer Precursors = Fewer SPMs.

In the last decade, highly precise extraction processes have been developed to make SPM precursors. When SPM precursors are available, the body, in turn, changes them to SPMs. This chart helped me understand the process better. Omega 3s are the starting point. Historically, only our bodies make the enzymes needed to convert them to SPM precursors. However, now there are highly specific extraction processes that make SPM pre-cursors, which can be encapsulated. With active inflammation, the body converts the SPM precursor to SPMs in the cell membrane. You may recognize some of the names of these SPMs: Resolvins, Protectins, and Lipoxins. SPMs can't be synthesized or encapsulated. The body has to make them from the SPM precursors. SPMs themselves are not available commercially. However, a few companies have been able to purify and isolate SPM Precursors to make them available clinically.

Announcing Biomega-SPM, a specialized Pro-Resolving Mediator Precursor product. One of the things I like about Biotics is their insistence on providing clean, clear labeling. They felt it was deceiving to sell a product that claims to contain SPMs. You see there are no SPMs in any competitive company's products. The body has to make them from the precursors, but for marketing purposes, other companies label products as if they do contain SPMs. To date, existing companies have three SPM precursors. However, Biotics employs a proprietary supercritical extraction process, which contains seven identifiable and tested SPM precursors. As a reminder, we can say identifiable and tested because Biotics has an ISO-certified laboratory in house. The expanded range of 7 SPM precursors provides a unique industry advantage. Two soft-gel capsules of Biomega-SPM contain 1200 mg of omega 3 fatty acids, which supply a highly concentrated 500 mcg of SPM precursors per serving.

Omega 3 fatty acids are necessary to facilitate the conversion process to SPMs. As a result, competitive companies add omega 3 fatty acids to their SPM precursors making their capsules large and difficult to swallow. Biotics Biomega-SPM already contains 1200 mg of omega 3 fatty acids per 2 capsules, so their capsules are smaller and easier to swallow.

I know this is a lot of information. I encourage you to watch this Tuesday Minute again and pause on the diagrams to take in the information. Biotics sponsored a webinar with Dr. Jennifer Stag that you can watch to digest the science of these amazing resolution factors. Thanks for being with me. I look forward to being with you again next Tuesday.