Enzyme Series 8: Trypsin Enzyme

Michael:

Trypsin is the next one up. I don't know anything about trypsin.

Kiran:

Well so trypsin, although the name doesn't suggest it, is also made by the pancreas, and it's actually released in an inactive form, and is actually hydrolyzed by stomach acid to some degree to the active form a trypsin. Trypsin is primarily, again, a digestive enzyme. It has a very specific role in breaking down large chains of protein to smaller chains of protein so that your body can actually start the breakdown process to release amino acids so you can utilize it. Trypsin plays a very important role in that. But trypsin also has been shown clinically to work well against things like osteoarthritis and reducing joint inflammation, so this systemic impact on trypsin as well, it can be absorbed into the circulatory system and seems to help with joint pain.

There are some places, and actually there may be a prescription drug that uses trypsin as a paste form to put it on wounds, because it helps with wound healing and actually breaks down some of the scar tissue formation and things like that to actually help with wound healing. I can't remember where, I don't think they sell it in the US, or it might be in Asia, or in Europe where they have the trypsin based wound healing creams, which are prescription products. And some people say it has some antimicrobial effects as well, sort of helps keep the would clean, but trypsin is an important enzyme. Again, as your pancreatic function drops as you age, you're not producing as much trypsin as well, so it becomes certainly when in you're in your 40s, 50s, 60s, it becomes quite important to look at a product that contains trypsin.

Michael:

I never heard of the wound cream so that's interesting.

Kiran:

Yeah it seems to help modulate with it. So there's another thing, matrix metalloproteinases. So matrix metalloproteinases are abbreviated MMPs. Matrix metalloproteinases are types of proteinases that actually affect tissue remodeling, and nattokinase has been suspected of being able to affect MMP activity, same with trypsin and chymotrypsin. So we've had people report to us before when using trypsin, chymotrypsin or nattokinase that they see scars that they've had for a long time diminish to some degree, because that's one of the roles of matrix metalloproteinases is to remodel the tissue so it reduces scar formation, and that may be part of the benefit of putting it on a would as well.

Michael:

It's fascinating how many … you think one enzyme, one function.

Kiran:

Yeah, you know they do so much and they're all so specific in what they do.

Michael:

It's just crazy. The further we go down all these rabbit holes and things, the less I feel like I know. And it's funny. It's like running around in a cave with a flashlight.

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Kiran:

Right.

Michael:

And it's here, looking at it right now, then you think, oh I've got this all figured out and you look up and there's bats.

Kiran:

Yup.