

CHAPTER IX: MIXTURES - GINSENG

So, what I'm going to do is very quickly touch upon a very important point, building on this framework, in terms of mixtures.

So, we began applying these kinds of techniques and looked at simpler molecules which is, in this case, ginseng. Because, even though it's a complex mixture, the point that I made earlier, that, when you're looking at the two components that are important to the activity in this case, RG1 and RB1, there are essentially moieties where you have sugars attached to them, and the location and sites of these modifications, depending on the source of these ginseng become important on the one hand.

Second, that, depending on the source of these ginseng, you can begin to see their ratios being pretty different. And, there is important functional consequence, and that, very quickly that I'm summarizing in this, if you're looking at the process of neo aspirization, where these molecules are useful and when healing applications, there's this amazing observation that was made which is while in the case of RG1, which is one of the components, you have increase of the chemo invasion properties associated with this component, you had the opposite affect of RB1. So, it underscores the fact that these are acting as mixtures. They're important to be mixtures, given the way they regulate these different processes with regard to wound healing, trying to really dial in or dial out the appropriate activities become important, on the one hand, but, in order to do that, we need to truly be able to understand the ratios of these molecules, the variety of different mixtures, and it sort of begs the question of standardization to be able to understand the structure function relationship at the end of the day.

So, this is just to illustrate that a similar approach and a similar thinking can go into molecules such as ginseng, and one of my post docs who is a faculty member at Harvard Medical School, is beginning to build on this framework and really look into the mechanistic pathway downstream, and how the various different components of ginseng truly become important in regulating distinct processes and wound healing, especially focusing on anti-genesis.