At the beginning of January of 2009 the Curia of Białystok asked two eminent specialists in pathological anatomy of the Medical University of Białystok - Professor Maria Elżbieta Sobaniec-Łotowska and Professor Stanisław Sulkowski, to analyze the samples of the bloodstained Host. On January 7 - Professor Sobaniec-Łotowska went to Sokółka and took from the corporal a minuscule sample of the mysterious substance present in the Host.

The professors of the UMB University had underlined that, in the case of the examined Host, in the sample they have found numerous biomorphological indicators typical of cardiac muscle tissue such as, for example, the phenomenon of segmentation, namely damage to the fibers of the tissue of the cardiac muscle in the section where communicating junctions [structures characteristic of the cardiac muscle] are found, and the phenomenon of fragmentation. Such damages are visible in the form of numerous small lesions. These alterations can be observed only in fibers that were not necrotic, that is alive, and show signs of the fast spasms of the cardiac muscle typical of the extreme phase preceding death. Another important evidence of the fact that the material analyzed corresponded to human cardiac muscle tissue was the central position of the cellular nucleus in the observed fibers, a typical characteristic of cardiac muscle fibers... The two scientists of Białystok declared... “Some signs that can correspond to nodes of the contractions have been observed on the section of several fibers. Instead, during the analysis with the electronic microscope, the outlines of the communicating junctions and the thin filaments of the myofibrils were visible”. Moreover, the cardiac tissue was joined to the consecrated Host in an inseparable manner. In the report of the examination performed by Professor Sobaniec-Łotowska and Professor Sulkowski, we find written: "The material resulted was sufficient for the examination; it indicates that it is cardiac muscle tissue, or at least the most similar to it among all the living tissues of an organism". “And, something very important, the material analyzed is composed in all respects of cardiac muscular tissue”. This affirmation is reported in the “Communication of the Metropolitan Curia of Białystok” of October 14, 2009, concerning the Eucharistic phenomena at Sokółka. The professors discovered also other unexplainable elements. “The Host remained in water for a long time and it remained in the corporal for an even longer period of time. The tissue that appeared on the Host would therefore have had to undergo the process of autolysis, namely the process of self-destruction by the action of the intracellular enzymes; in the material analyzed there were not however observed traces of these alterations!”, the two luminaries declared. Another very interesting event observed consists in that the substance found on the corporal, although slightly changed after being removed from the water (it had simply dried) a couple of years ago, it did not change its appearance despite having been neither stabilized nor preserved at a particular temperature. “This signifies that if the miracle were due to a bacterium, the material would have disintegrated, crumbled and would have changed appearance. Any microbial culture, even placed on the cleanest possible material, after a single week appears completely different” added Professor Sulkowski.