

Questions for Discussion 17 - Diabetes, O-GlcNAc, AGE

1. O-GlcNacylation is one of the last major glycosylation classes discussed. How different is it from the other glycosylation classes? Can you come up with a table to allow such a comparison.
2. O-GlcNAc is now known to be the most common form of glycosylation in the cell. Why did it take so long for this fact to be appreciated? What was the serendipity involved in its discovery?
3. How does O-GlcNAc act as a “metabolic sensor”?
4. Everybody is familiar with the concept that diabetes is associated with elevated Advanced Glycation End products (AGE). How are AGE generated and what factors can determine AGE levels in a human patient?
5. How would you distinguish AGE from O-GlcNAc and their respective roles in diabetes? Consider how you would target AGE and O-GlcNAc to treat diabetes?
6. Can you consider AGE to be a glycosylation class?

Please read chapter 18 and the attached paper