This investigation describes the development of new tools to help in the elucidation of a 3-dimensional structure of human ENT1, a membrane bound protein vital in the regulation of flux of nucleosides into and out of cells. Nucleosides are molecules that serve as the building blocks of our hereditary material (DNA) and they are also molecules that act as messengers in cellular communication. Cellular communication via nucleosides is particularly important in the heart. We are also interested in understanding the structure of hENT1 because it is the prime cell entry point for a large class of drugs used in the treatments of various cancers and viral infections. By understanding the structure of hENT1, we can develop more efficient drugs which, we hope, will also have fewer side-effects. In this paper, we describe a method of producing functional full-length human ENT1 protein in bacteria, which means we can generate enough protein to use a wide variety of approaches to study the structure of hENT1.

Reference: Reyes G, Nivillac NM, Chalsev M, **Coe IR**. Analysis of recombinant tagged equilibrative nucleoside transporter 1 (ENT1) expressed in E. coli. Biochem Cell Biol. **2011** Apr;89(2):246-55.

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