

Transcriptome Modulation via Structurally Constrained Peptides

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The Transcriptome state of a cell defines its current status. Changes are the result of the adaptation to its environment. Within the cell, signals are transduced via signal transduction pathways and integrated at specific hubs. At the downstream end of this process, transcription factor complexes, including repressors and enhancers, are the driving force of the transcriptional machinery. Here I will show examples of how bioorganic chemistry, in combination with protein crystallography and X-ray structure determination, help to come up with tools to understand the underlying biological processes with the help of chemically modified peptides as tool compounds. Additionally, I will give an insight into our INCYPRO technology (IN situ CYclisation of PROteins) which we developed from our knowledge of structurally constrained peptides to design stabilized proteins.