

## Project #7

### Mechanisms of transcription factors involved in pluripotency and $\beta$ cell development

#### Description

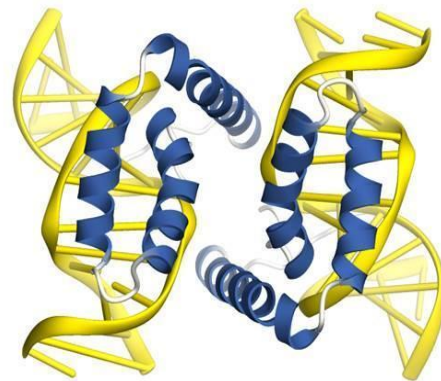
This proposal seeks to find detailed molecular mechanisms involved in stem cell biology and pancreatic development. The common thread is Sox transcription factors, implicated in pluripotency and other developmental roles such as cell fate-determining pathways including pancreatic development. For example, Sox17, an endodermal TF, has been shown to be critical for pancreatic  $\beta$  cell development. Other Sox proteins have also been implicated in pancreatic development and these will also be studied. This proposal seeks to shed light on the mechanisms driving pancreatic development and other developmental roles. The proposal will use an integrative approach and make use of biochemistry and structural biology of in vitro systems and combine this with cell biology data from stem cell diabetes within QBRI.

#### Mentors

Dr. Prasanna R. Kolatkar, Senior Scientist. Email: [pkolatkar@hbku.edu.qa](mailto:pkolatkar@hbku.edu.qa), Dr. Zeyaul Islam, Postdoc. Email: [zislam@hbku.edu.qa](mailto:zislam@hbku.edu.qa)



Sox crystals.



Structure of Sox17 bound to DNA