**Gene Therapy for SCD**

After completing the activity on Hydroxyurea to the rescue or Bridgette’s Wish answer the following question.

In 2017 a report (N Engl J Med 2017; 376:848-855; DOI: 10.1056/NEJMoa1609677) was published describing the first patient successfully treated by addition of a mutant β-globin gene into the individual’s own stem cells. The mutation T87Q in the β-globin gene had an anti-sickling effect. Here we will explore the mechanism of its action.

Q. Although the original mutation V6E persists, the additional mutation T87Q was seen to have an anti-sickling effect. How do you think this works? Explain your answer with an illustration to support your reasoning.(Hint: Use iCn3D to create a view of the HbS fiber formation to explain your answer).

Q2. Currently several gene therapy strategies are being tried to treat SCD. Explore the literature and write a short summary of the various approaches being used.