**Happy Blue Baby**

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**Part 4: What causes the anemia?**

Examine a figure from the New England Journal of Medicine article (<https://www.nejm.org/doi/full/10.1056/NEJMoa1013579>, Figure 1A) showing the DNA sequence seen in the newborn baby.



Note: That the mutated residue can sometimes be oxidized to form an Asp.

Q1. What do you think the relationship between Met and Asp? Draw the chemical structure of the side chains of these amino acids and explain in terms of the size and physicochemical properties.

Q2. The NEJM article summary mentions a condition that may arise in the mutant proteins leading to denaturation and anemia. What is that condition? Explain your answer based on the structure that you have visualized. If possible, include a figure to support your explanation.