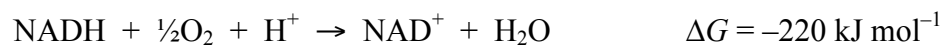


- The electron transfer reaction between NADH and oxygen is a spontaneous reaction at 37 °C



When this reaction is carried out in solution in a test tube via direct mixing of NADH with dissolved oxygen, the reaction releases a significant amount of heat. However, when the reaction occurs in mitochondria during respiration, it produces very little heat. Explain why the heat evolved is much less in mitochondria.