

Introduction

- Alternative route for the metabolism of glucose
- Also known as **Hexose Monophosphate (HMP) shunt**
- More complex pathway than glycolysis
- It helps in
 - formation of **NADPH** for synthesis of fatty acids, steroids,
 - maintaining reduced **glutathione** for antioxidant activity
 - synthesis of **ribose** for nucleotide and nucleic acid formation

CLINICAL ASPECTS

- Genetic defects of glucose-6-phosphate dehydrogenase
- impairment of the generation of NADPH - X chromosome
- Mediterranean and Afro-Caribbean origin
- red cell hemolysis (**hemolytic anemia**)
- subjected to oxidative stress
 - Infection
 - Drugs such as the antimalarial primaquine, and sulfonamides
 - Fava beans - **favism**