

GLYCOGENOLYSIS (Breakdown of Glycogen)

* Occurs in fasting / stress / Exercise

[Glucagon; NE; Epi]

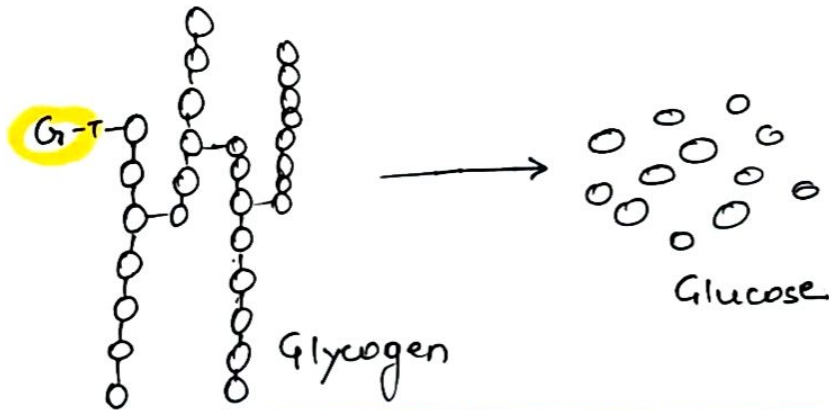
* Site :- Liver & Muscle

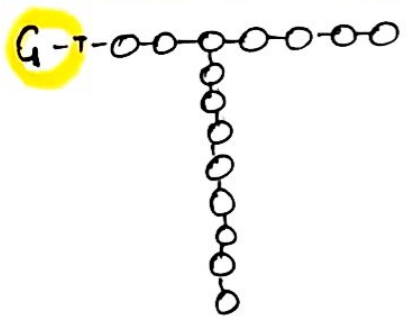
[CYTOPLASM]

⇒ "Hepatic Glycogenolysis" is a direct source of blood glucose
BUT

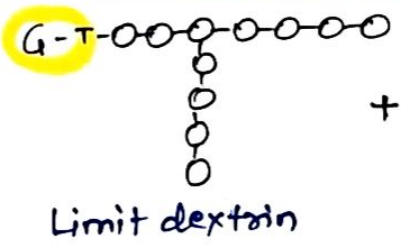
⇒ Muscle Glycogenolysis is not direct source of blood glucose
(d/t absence of enzyme "Glu-6-phosphatase")

* Steps :-

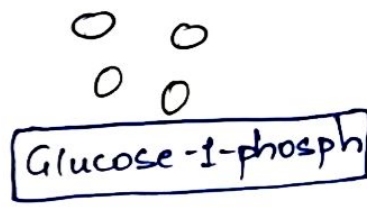




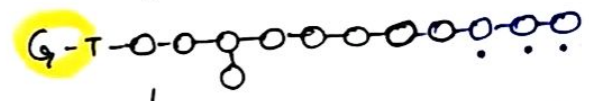
Glycogen phosphorylase
(PLP-vit B₆)
(Rate Limiting Enzyme)



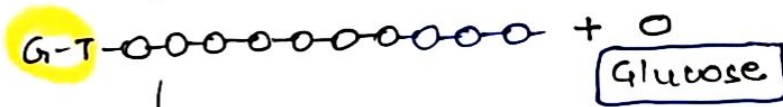
Limit dextrin



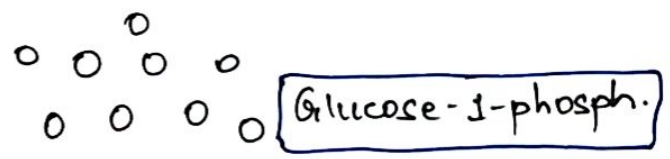
Debranching enzyme
(α 1,4 1,4 glucan transferase)



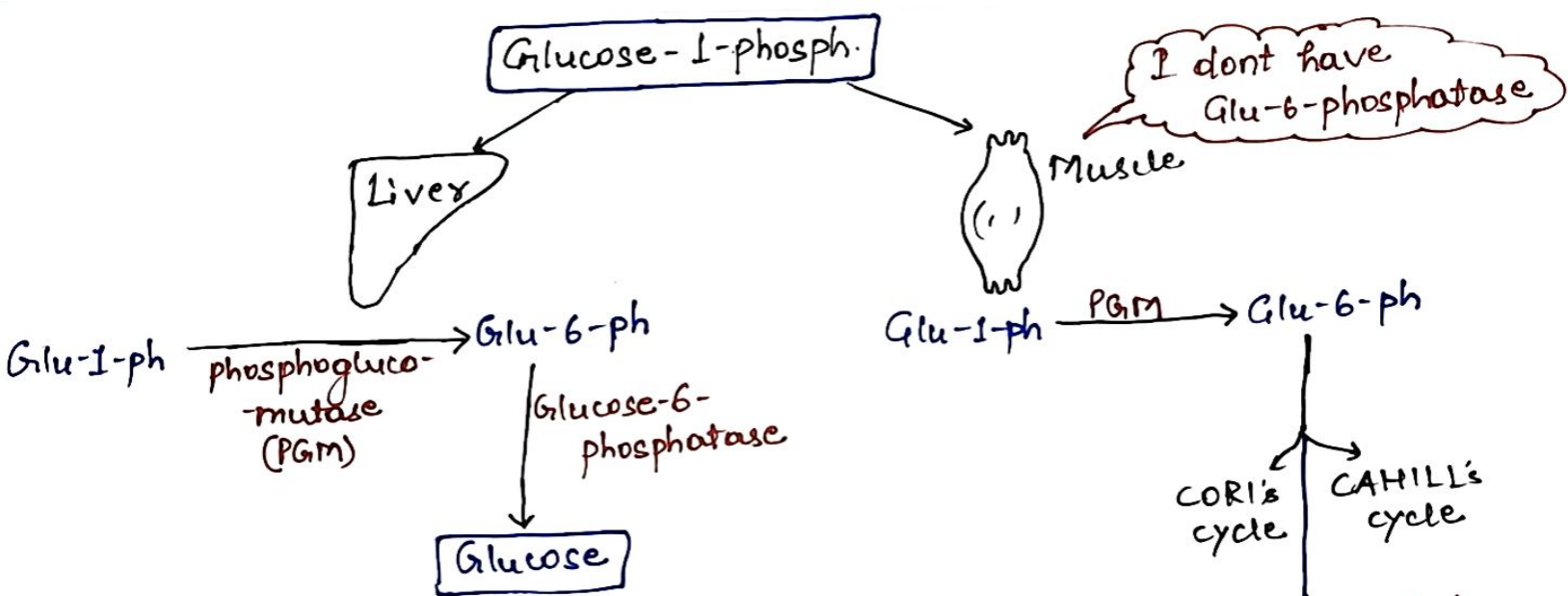
Debranching enzyme
(α 1,6 glucosidase)



Glycogen phosphorylase



{ Hence; Debranching enzyme }
 { is a Bifunctional enzyme } }



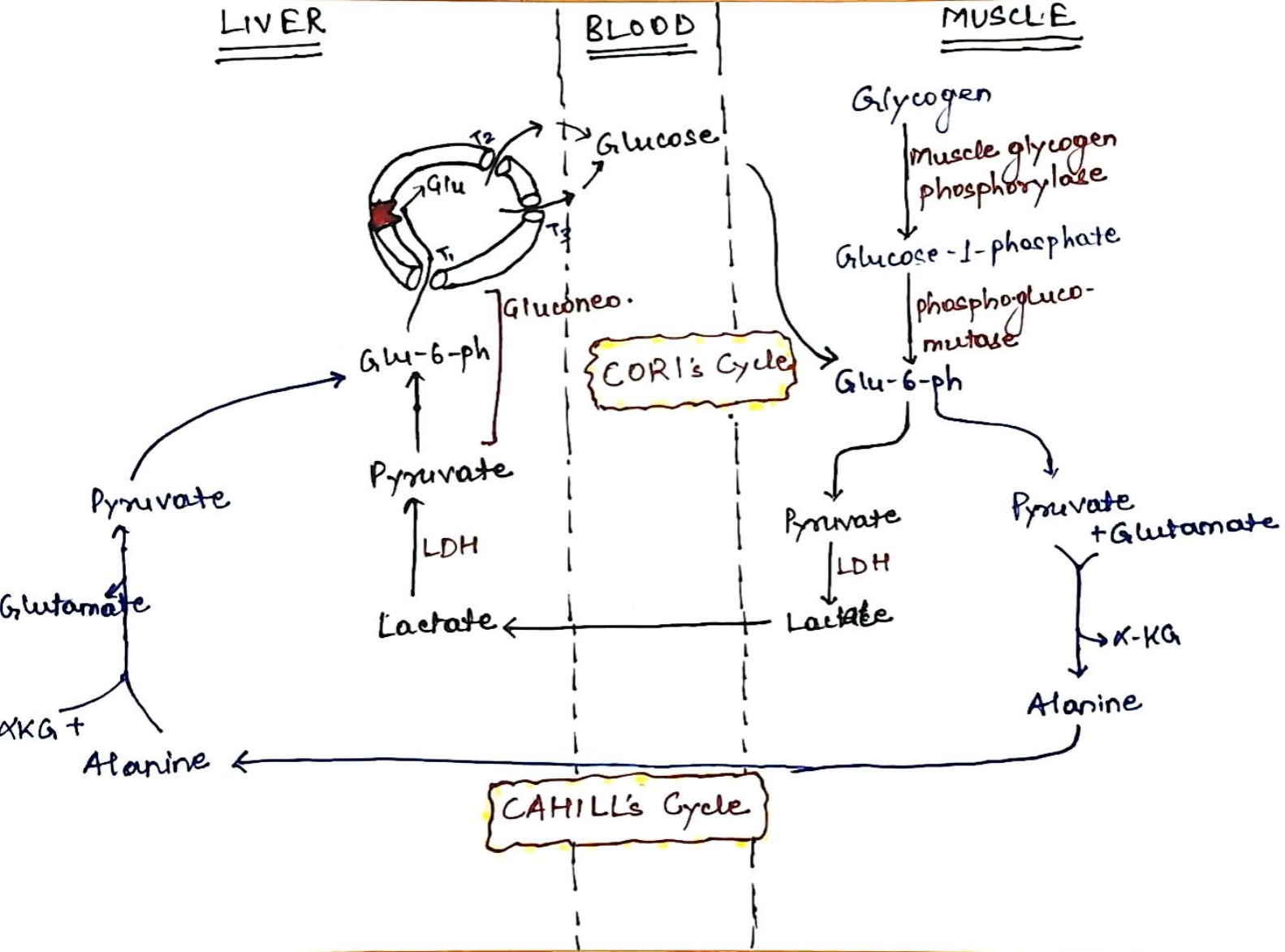
Hence;
 Hepatic glycogen is a source
 of blood glucose

Hence,
 Muscle glycogen is a ready
 source of metabolic fuel for
 use in muscles

LIVER

BLOOD

MUSCLE



Liver
(Cytoplasm)

