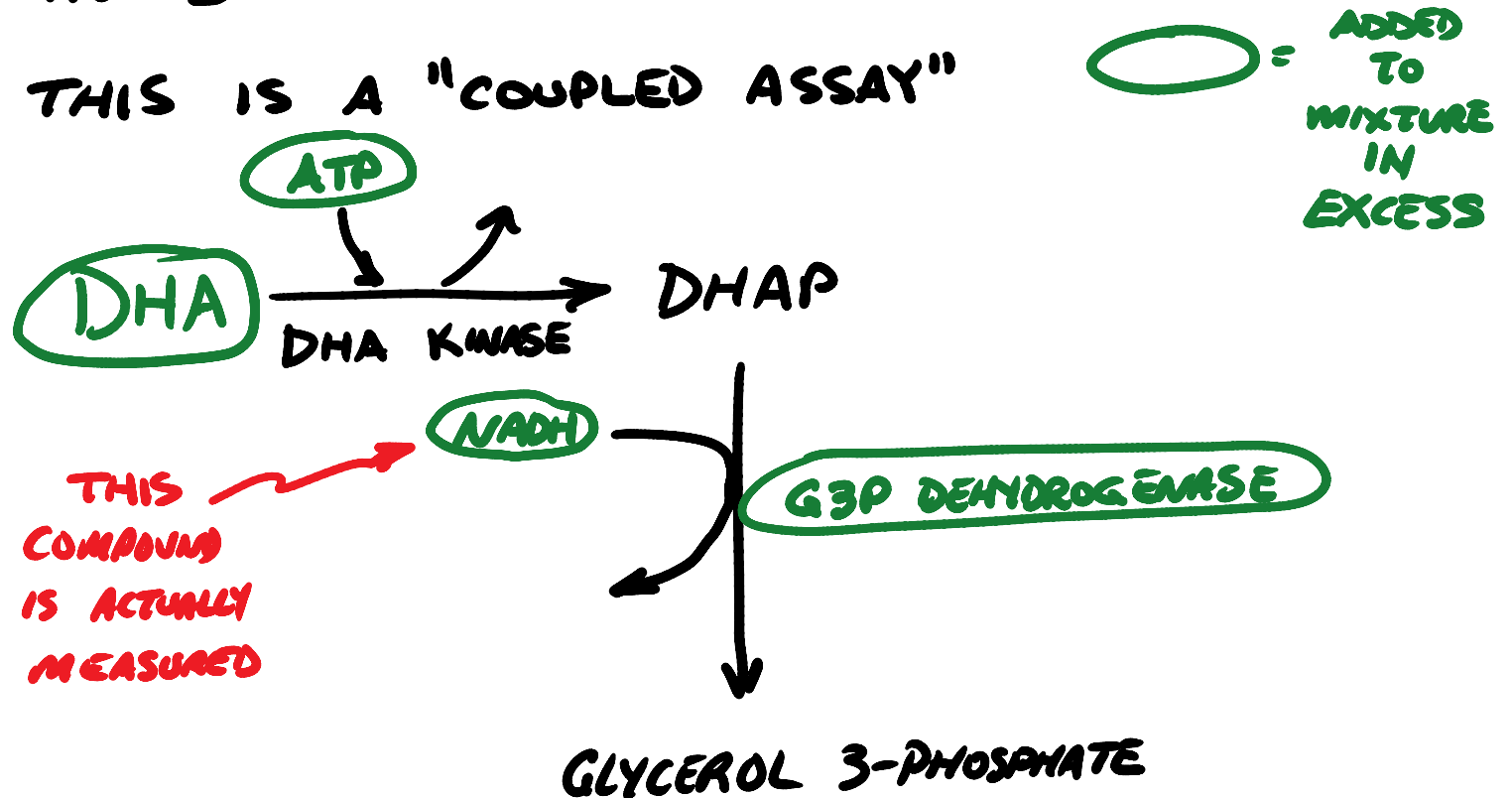


1F)

1IU IS THE AMOUNT OF DHA KINASE
NEEDED TO FORM $1\mu\text{mol}$ OF DHAP
IN 1 MINUTE.

THIS IS A "COUPLED ASSAY"



- i) EXCESS G3P DEHYDROGENASE IS NEEDED TO ENSURE THAT THE DHA KINASE REACTION IS WHAT LIMITS NADH OXIDATION.

THE RATE OF DECREASE IN NADH IS MEASURED

$$\text{TO BE } \frac{0.52 \text{ AU}}{\text{MIN}} \times \frac{\text{mmol}}{6.22 \text{ AU L}} = 0.0836 \frac{\text{mmol}}{\text{L min}}$$

TOTAL VOLUME OF MIXTURE = $1000 \mu\text{L}$

VOLUME OF ENZYME SOLUTION = $100 \mu\text{L}$

ii) VOLUMETRIC ACTIVITY

$$0.0836 \frac{\text{mmol}}{\text{L min}} \times \frac{1000 \mu\text{L SOLUTION}}{100 \mu\text{L ENZYME SOLN}} \times \frac{1000 \mu\text{mol}}{\text{mmol}}$$
$$= 836 \text{ IU/L} = \underline{\underline{0.836 \text{ IU/mL}}}$$

iii) SPECIFIC ACTIVITY

$$\frac{0.836 \text{ IU/mL}}{4.3 \mu\text{g/mL}} \times \frac{1000 \mu\text{g}}{\text{mg}} = \underline{\underline{194 \text{ IU/mg PROTEIN}}}$$