* Steps 4 & 5 Formation of α-ketoglut

* Isocitrate dehydrogenase (ICDH) catalyses conversion of (oxidative decarboxylation) isocitrate to oxalosuccinate & then to α-ketoglutarate.
* The formation of NADH & the liberation of occur at this stage.
* Stimulated (cooperative) by isocitrate, NAD Mg^{2+}, ADP, Ca^{2+} (links with contraction).
* Inhibited by NADH & ATP

* Significance of TCA cycle

* Complete oxidation of acetyl CoA.
* ATP generation.
* Final common oxidative pathway.
* Integration of major metabolic pathways.
* Fat is burned on the wick of carbohydrates.
* Excess carbohydrates are converted as neutral
* No net synthesis of carbohydrates from fat.
* Carbon skeleton of amino acids finally enter th cycle.