

**P024** Calmodulin Recruitment by Adenylyl Cyclase Type 8  
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Nine membrane-bound adenylyl cyclase (AC) isoforms are differentially regulated by G-proteins and calcium ( $\text{Ca}^{2+}$ ). AC type 8 is stimulated by  $\text{Ca}^{2+}$  in a calmodulin-dependent manner. Calmodulin (CaM) is a ubiquitous  $\text{Ca}^{2+}$ -binding protein, which is utilised by an array of  $\text{Ca}^{2+}$ -regulated proteins. Competition for CaM between target proteins results in a low cellular free CaM concentration. It is therefore important for CaM-dependent proteins to have an adequate mechanism for obtaining CaM. In the present study we have explored how AC8 might recruit CaM prior to an increase in intracellular  $\text{Ca}^{2+}$ . *In vivo* measurement of cAMP accumulation in the presence of  $\text{Ca}^{2+}$ -insensitive CaM mutants provides evidence that AC8 pre-associates with CaM. Protein-protein interactions further clarify how CaM associates with each of two CaM binding domains of AC8. Such recruitment of CaM is an essential mechanism to ensure AC8 can be activated once localised to the plasma membrane.