Embryonic development is a fascinating and intricate process, involving a myriad of molecular pathways that govern the formation of vital structures in organisms. In this pursuit of unraveling the mysteries of development, our investigation delves into the crucial role of Cyclooxygenase-2 (COX-2) in chick embryos and its impact on craniofacial and heart development.

This investigation focuses on Cyclooxygenase-2 (COX-2) in chick embryos and its impact on craniofacial and heart development. COX-2 is responsible for producing Prostaglandin E2 (PGE2), which regulates cellular functions. Inhibiting COX-2 with etoricoxib resulted in abnormal craniofacial development, affecting jaw, eye, facial features, and heart looping. COX-2 plays a critical role in the migration, proliferation, and survival of cranial neural crest cells during development. It also influences heart development, myocardial patterning, and eye differentiation. Understanding COX-2's role offers insights into these processes and potential interventions for preventing defects. Restoring defects through DM-PGE2 application shows promise for clinical research. The research team acknowledges the collective efforts of all contributors and hopes to advance knowledge for preventing developmental abnormalities.

ELUCIDATING THE ROLE OF Cyclooxygenase-2 IN THE MORPHOGENESIS OF CRANIOFACIAL STRUCTURES IN DOMESTIC CHICK

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