

Inhibition of palatal fusion in vitro by indomethacin in two strains of mice with different H-2 backgrounds

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Susceptibility to glucocorticoid-induced cleft palate in mice has been related to the H-2 histocompatibility complex on chromosome 17. Indomethacin administered in vitro to palatal processes from 13.5-day-old mouse embryos inhibited palatal fusion. Strains with the A background and the H-2a haplotype had significantly higher rates of inhibition than their partners with the H-2b haplotype. The inhibition was prevented in both strains by the addition to the media of prostaglandin E2, but this corrective effect was greater in the A strain with the H-2a haplotype. Thus, blockade of palatal fusion involves prostaglandins, suggesting a similar genetic and biochemical pathway for the different susceptibilities to cleft palate induced by both indomethacin and glucocorticoids. © 1989.