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Cover page

# Loss-of-function mutations of the *Notch* locus of *Drosophila melanogaster* are neuralizing but gain-of-function mutations antineuralizing in epidermal clones; both are lethal in gynandromorphs

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**SUMMARY**

Previous studies have shown that amorphic mutations of the *Notch* locus of *Drosophila melanogaster* neuralize epidermal clones induced in the first or third instar larva on a wild type background, i.e. such clones cannot support chaeta differentiation. Previous studies also show that antimorphic *Abruptex* mutations of the *Notch* locus are viable when induced in the first instar larva on a wild type background and can support chaeta differentiation. We show that both amorphic loss-of-function mutations and antimorphic gain-of-function mutations of the *Notch* locus are lethal in gynandromorphs. We further show that the lethal *Abruptex* mutations are viable in *Minute*$^+$ clones induced during the first instar larva in the eye as well as the cuticle. *Minute*$^+$ clones induced in the third instar larva were less viable than those induced in the first instar, an effect due to the antineurogenic effect of *Abruptex* mutations. An extra dose of the wild type allele of the *Notch* locus fully restored the viability of the gynandromorphs. The main conclusion suggested by these findings is that amorphic mutations of the *Notch* locus neuralize epidermal clones whereas antimorphic mutations have an antineurogenic effect.