

Visual Pathways that Guide Pain-Induced Defensive Boxing in Rats

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Although tactile hairs of the face provide the primary guiding stimuli for shock-elicited defensive boxing of rats, the visual system also plays a role. As Thor and his co-workers have shown, rats continue boxing after facial anesthesia, and we have found that this boxing is visually mediated, since blinded animals do not show it. The visually mediated boxing is not abolished by superior colliculus lesions, but is abolished by visual cortex lesions. Rats with unilateral visual cortex lesions served as their own controls; closure of the ipsilateral eye abolished the visually-mediated boxing, while closure of the contralateral eye did not.