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Neurexin Is Required for Rhodopsin Biosynthesis through Promoting Retinoid Transport

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Vitamin A (all-*trans*-retinol) and other retinoids are critical for many physiological processes, such as visual pigment generation, development, cell proliferation and neuronal plasticity. Neurexin is a cell adhesion molecule involved in synapse formation and relates to autistic spectrum disorder. Here we report *dosophila* Neurexin is required for Rh1 biosynthesis through promoting retinoids transport. Lost of Neurexin leads to reduction of Rh1 level, which is due to impaired chromosphere generation. We further show that Neurexin exists in the axon of photoreceptor neurons and is essential for retinoids transport from extra retinal to retinal. Our results reveal a novel role of Neurexin in facilitating retinoids transport and imply the potential relationship between retinoids function and autistic spectrum disorder.

Key words: Neurexin; Rhodopsin; retinoid; glia; autism