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Title:	Constitutive internalization and recycling of metabotropic glutamate receptor 5 (mGluR5)
Authors:	Trivedi, Rishi Raj (/jspui/browse?type=author&value=Trivedi%2C+Rishi+Raj) Bhattacharyya, Samarjit (/jspui/browse?type=author&value=Bhattacharyya%2C+Samarjit)
Keywords:	Endocytic trafficking Recycling; GPCR Metabotropic glutamate receptor
Issue Date:	2012
Publisher:	Elsevier B.V.
Citation:	Biochem Biophys Res Commun. 427 (1); page: 185-190
Abstract:	Ligand-dependent and ligand-independent endocytic trafficking of G-protein coupled receptors (GPCRs) is critical for accurate receptor-mediated signaling and its regulation. Metabotropic glutamate receptor 5 (mGluR5) is a GPCR that plays a crucial role in circuit formation in the brain and also in various forms of synaptic plasticity including learning and memory. Outside the central nervous system this receptor also plays very important role in various other non-neuronal cells like heart cells, skin cells, hepatocytes, etc. Although the ligand-mediated endocytosis of mGluR5 has been studied in some detail, ligand-independent/constitutive endocytosis of the receptor has not been properly studied. Here, we have investigated the constitutive endocytosis of mGluR5 and also the sub-cellular fate of the receptor subsequent to internalization. We show here that mGluR5 undergoes constitutive internalization in HEK293 cells. Following endocytosis, the receptor enters the recycling compartment and no localization of the receptor was observed in the lysosome. In addition, we also report here that most of the receptors recycle to the cell surface subsequent to constitutive internalization. Thus, our data demonstrate that mGluR5 receptors internalize without the application of ligand and the internalized receptors recycle back to the cell surface following constitutive endocytosis.
URI:	http://www.sciencedirect.com/science/article/pii/S0006291X12017809 (http://www.sciencedirect.com/science/article/pii/S0006291X12017809) http://dx.doi.org/10.1016/j.bbrc.2012.09.040 , (http://dx.doi.org/10.1016/j.bbrc.2012.09.040),
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