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| **Title:** | Down-regulation of LPA receptor 5 contributes to aberrant LPA signalling in EBV-associated nasopharyngeal carcinoma |
| **Type:** | Article indexed in ISI/ Web of Knowledge |
| **Source (ISSN):** | JOURNAL OF PATHOLOGY (0022-3417) |
| **Status:** | A paid open access option is available for this journal. |
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| **Volume (Issue):** | 235(3): 456-465 |
| **DOI:** | 10.1002/path.4460 |
| **Abstract:** | Undifferentiated nasopharyngeal carcinoma (NPC) is a highly metastatic disease that is consistently associated with Epstein-Barr virus (EBV) infection. In this study, we have investigated the contribution of lysophosphatidic acid (LPA) signalling to the pathogenesis of NPC. Here we demonstrate two distinct functional roles for LPA in NPC. First, we show that LPA enhances the migration of NPC cells and second, that it can inhibit the activity of EBV-specific cytotoxic T cells. Focusing on the first of these phenotypes, we show that one of the LPA receptors, LPA receptor 5 (LPAR5), is down-regulated in primary NPC tissues and that this down-regulation promotes the LPA-induced migration of NPC cell lines. Furthermore, we found that EBV infection or ectopic expression of the EBV-encoded LMP2A was sufficient to down-regulate LPAR5 in NPC cell lines. Our data point to a central role for EBV in mediating the oncogenic effects of LPA in NPC and identify LPA signalling |

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| | as a potential therapeutic target in this disease. Copyright (c) 2014 Pathological Society of Great Britain and Ireland. Published by John Wiley & Sons, Ltd. |
| **Keyword:** | nasopharyngeal carcinoma; epstein-barr virus; lysophosphatidic acid; lpa receptor, epstein-barr-virus; lysophosphatidic acid; epithelial-cells; lymphocytes; induction; infection; motility; growth; cancer; gpr92 |
| **Related URL:** | http://onlinelibrary.wiley.com/doi/10.1002/path.4460/abstract<br>http://www.ncbi.nlm.nih.gov/pubmed/25294670<br>http://www.pubfacts.com/detail/25294670/Down-regulation-of-LPA-receptor-5-contributes-to-aberrant-LPA-signalling-in-EBV-associated-nasophary |