

LAM or TSC Disease Models:

J Neurosci. 2013 Nov 13;33(46):18015-21. doi: 10.1523/JNEUROSCI.2290-13.2013.

A Novel Hap1-Tsc1 Interaction Regulates Neuronal mTORC1 Signaling and Morphogenesis in the Brain.

Mejia LA, Litterman N, Ikeuchi Y, de la Torre-Ubieta L, Bennett EJ, Zhang C, Harper JW, Bonni A.

Main points covered in the paper

TSC complex disease is associated with neurological alterations. Although much is known on the role of the Tsc1 and Tsc2 proteins in the control of the mTORC1 signaling pathway in diverse cells, its regulation in neurons remains to be elucidated. The results described in this study depict the role of huntingtin-associated protein 1 (Hap1) as a novel functional partner of Tsc1.

What is the relevance of the study?

The authors make the case that removal of Hap1 mimics the effects induced by removal of Tsc1. The collective interpretations of their findings promotes the idea that there is a novel link between Hap1 and Tsc1 playing a role in neuronal mTORC1 signaling.

Is there a public health implication of the research described in this paper?

Not at this stage, but future research most likely will increase our understanding of the complex regulatory network that controls mTOR activity in neuronal morphogenesis, with implications for our knowledge of developmental disorders of cognition.

Clinical Trials/Clinical Studies:

American Journal of Respiratory and Critical Care Medicine, November 1, 2013, Vol. 188, No. 9 : pp. 1167-1170

Pulmonary Vascular Shunts in Exercise-Intolerant Patients with Lymphangiomyomatosis

Zafar MA, McCormack FX, Rahman S, Tencza C, Wikenheiser-Brokamp KA, Young LR, Shizukuda Y, Elwing JM.

Main points covered in the paper

There is a small group of LAM patients that experience exercise induced dyspnea and oxygen desaturation to a greater degree that would be expected given their extent of physiologic impairment or parenchymal lung involvement. Employing methodology used to study exercise echocardiography, the authors have evaluated patients with LAM experiencing exercise induced dyspnea for pulmonary vascular abnormalities.

What is the relevance of the study?

A total of nine females participated in the study. The authors found that a significant number of the patients (62.5%) had abnormal responses consistent with intrapulmonary arterio-venous shunts (IPAVS). Noteworthy is the fact that there was no significant difference between patients suffering IPAVS with the patients that did not show IPAVS in term of physiological parameters (among them FEV1, DLCO or VEGF-D levels).

The authors reported the unexpected occurrence of IPAVS in patients with LAM. The study showed that 50% of the exercise- intolerant patients with LAM had IPAVS at rest and 62.5% had IPAVS on exertion.

Is there a public health implication of the research described in this paper?

The authors point out that IPAVS observed at rest in the LAM patients has not been reported in patients with other interstitial or cystic lung diseases. Given the fact that there was no difference between the LAM patients with IPAVS and the one without IPAVS, in terms of physiological functional test, illustrates the complexity of the relationship between exercise response and the functional/histological state of the lung tissue in LAM patients.

[Bol Asoc Med P R. 2013;105\(3\):64-9.](#)

Pulmonary lymphangiomyomatosis: literature update.

Valentín-Mendoza S, Nieves-Nieves J, Fernández-Medero R, Fernández-Gonzales R, Adorno-Fontánez J, Adorno-Fontánez E.

A review of pathophysiology, molecular genetics and medical treatments are summarized.