

## **Caveolin-1 but not cavin overexpression produces “supersized” adipocytes with larger lipid droplets in adipocytes**

Submitted by Soazig Le Lay on Fri, 05/29/2015 - 10:53

Titre	Caveolin-1 but not cavin overexpression produces “supersized” adipocytes with larger lipid droplets in adipocytes
Type de publication	Communication
Type	Communication avec actes dans un congr�s
Ann�e	2013
Langue	Anglais
Date du colloque	22-24/04/2013
Titre du colloque	VIII�me Congr�s de Physiologie, Pharmacologie et Th�rapeutique, Angers
Titre des actes ou de la revue	Abstracts of the 17th Annual Meeting of French Society of Pharmacology and Therapeutics. In: Fundamental & Clinical Pharmacology
Volume	27, Suppl. 1
Pagination	121
Auteur	Briand, Nolwenn [1], Prado, Cecilia [2], Le Liepvre, Xavier [3], Lasnier, Fran�oise [4], Dugail, Isabelle [5], Le Lay, Soazig [6]
Pays	France
Editeur	Wiley
Ville	Angers
ISBN	1472-8206
Mots-cl�s	Adipocyte [7], Caveolae [8], Caveolin [9], cavin [10], lipid drople [11]
R�sum� en anglais	<p>Caveolin-1 cooperates with the recently described cavin protein family to form membrane caveolae structures, which are particularly abundant in adipocytes. Caveolin-1 is also present in adipocytes as a lipid droplet associated pool, whose function remains uncertain. Caveolin-1 deficiency leads to lipoatrophy in mice models and human subjects, suggesting a critical role in the storage of lipids. We report here on retroviral overexpression caveolin-1-RFP, cavin-1-GFP or cavin-3-GFP in 3T3-L1 adipocytes. All three cell lines differentiated normally, contained a higher number of caveolae, and displayed ameliorated maximal insulin response, which is known to occur in caveolae. Only caveolin-1 overexpressing adipocytes, but not cavin-1 or -3, accumulated significantly larger lipid droplets than control lines containing empty retroviral vectors. Also, when injected into nude mice, all cell lines induced the formation of newly generated fat pads, but those produced from caveolin-1-RFP preadipocytes contained larger adipocytes, indicating a specific impact of caveolin-1 but not other cavins on lipid storage in vivo. Together our data demonstrate a specific role of lipid droplet caveolin pool, independent of caveolae, to modulate lipid droplet expansibility.</p>

URL de la notice <http://okina.univ-angers.fr/publications/ua11993> [12]

Lien vers le document en ligne <http://onlinelibrary.wiley.com/doi/10.1111/fcp.2013.27.issue-s1/issuetoc> [13]

---

### **Liens**

- [1] [http://okina.univ-angers.fr/publications?f\[author\]=644](http://okina.univ-angers.fr/publications?f[author]=644)
- [2] [http://okina.univ-angers.fr/publications?f\[author\]=985](http://okina.univ-angers.fr/publications?f[author]=985)
- [3] [http://okina.univ-angers.fr/publications?f\[author\]=611](http://okina.univ-angers.fr/publications?f[author]=611)
- [4] [http://okina.univ-angers.fr/publications?f\[author\]=612](http://okina.univ-angers.fr/publications?f[author]=612)
- [5] [http://okina.univ-angers.fr/publications?f\[author\]=23809](http://okina.univ-angers.fr/publications?f[author]=23809)
- [6] <http://okina.univ-angers.fr/soazig.lelay/publications>
- [7] [http://okina.univ-angers.fr/publications?f\[keyword\]=1269](http://okina.univ-angers.fr/publications?f[keyword]=1269)
- [8] [http://okina.univ-angers.fr/publications?f\[keyword\]=1149](http://okina.univ-angers.fr/publications?f[keyword]=1149)
- [9] [http://okina.univ-angers.fr/publications?f\[keyword\]=1737](http://okina.univ-angers.fr/publications?f[keyword]=1737)
- [10] [http://okina.univ-angers.fr/publications?f\[keyword\]=18207](http://okina.univ-angers.fr/publications?f[keyword]=18207)
- [11] [http://okina.univ-angers.fr/publications?f\[keyword\]=18208](http://okina.univ-angers.fr/publications?f[keyword]=18208)
- [12] <http://okina.univ-angers.fr/publications/ua11993>
- [13] <http://onlinelibrary.wiley.com/doi/10.1111/fcp.2013.27.issue-s1/issuetoc>

Publié sur *Okina* (<http://okina.univ-angers.fr>)