

DSM Science & Technology Awards (SOUTH) 2008

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Overconsumption of fat rich and qualitatively imbalanced foods strongly contributes to the prevalence of obesity. For a long time, dietary lipids were thought to be sensed in the oral cavity only through their textural and olfactory cues. Recent data suggest that the sense of taste could also play a significant role in fat perception. The Laboratory of Nutrition Physiology headed by Prof. Besnard has recently shown that the lipid-binding protein CD36 is involved in the spontaneous preference for fat and in the short-term increase in the digestive secretions triggered by lingual stimulation with lipids in mice. In this context, Dany Gaillard's work has resulted in a first publication demonstrating that the gustatory pathway is involved in this perception system, which can thus be considered as a sixth basic taste modality in mice. Moreover, his studies on the mechanisms and on the physiological and metabolic consequences of this CD36-mediated perception system, such as its impact on weight gain, could lead to new perspectives in the prevention and treatment of obesity.