

# Scaffolding proteins in highly purified rat olfactory cilia membranes

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Odour-mediated signal transduction is a complex process that occurs in the cilia of olfactory sensory neurons. To gain insight in to the molecular organization of the odour transduction machinery, we developed a procedure to purify olfactory cilia membranes by differential centrifugation of rat olfactory epithelium extracts. We tested whether known scaffolding proteins that might participate in the assembly of the complex chemotransduction apparatus are present in the purified membrane fraction. Utilizing immunoblotting and immunohistochemistry, we show that the multidomain scaffolding proteins ProSAP/Shanks and calcium/calmodulin-dependent serine protein kinase CASK are present in the olfactory cilia. Ion channels involved in chemotransduction could be reconstituted into planar lipid bilayers for electrophysiological recordings. Our procedure should allow the identification of further chemotransduction-related proteins. © Wolters Kluwer Health |

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