

## In the news

### CATCH OF THE DAY

Fish oils have been hailed as a health 'wonder' food and have many reputed health benefits, including an ability to alleviate chronic inflammation. Now, scientists have identified a molecular pathway through which the omega-3 fatty acids, which are found in oily fish, exert anti-inflammatory effects (*Cell*, 3 Sep 2010).

Jerrold Olefsky and colleagues at the University of California, USA, explored the fatty acid-binding properties of various G protein-coupled receptors and identified GPR120 as a potential receptor for omega-3 fatty acids (*ScienceNOW*, 2 Sep 2010). GPR120 is expressed solely by pro-inflammatory macrophages and mature fat cells and activation of this receptor by omega-3 fatty acids had a strong anti-inflammatory effect (*Times of India*, 3 Sep 2010). According to Olefsky, the fatty acids "switch on the receptor, killing the inflammatory response."

Particularly striking was the finding that omega-3 fatty acids inhibited type 2 diabetes development. Feeding mice a high-fat diet promotes chronic inflammation and insulin resistance: supplementing their diet with omega-3 fatty acids restored insulin sensitivity and prevented diabetes in wild-type, but not GPR120-deficient, mice (*LA Times*, 2 Sep 2010). Nader Moniri, a pharmacologist at Mercer University, Atlanta, USA, described the results as "preliminary but exciting."

Further work is needed to understand all of the anti-inflammatory properties of omega-3 fatty acids. For example, these fatty acids can block the migration of macrophages into body tissues. "It's a remarkable effect, and we don't know its action," said Olefsky. Moreover, although these findings suggest that serious inflammatory conditions could be treated with simple dietary supplementations, scientists advise caution. It is unclear whether high doses of fish oil are safe and excessive consumption of fish oil has been linked to an increased risk of bleeding and stroke (*ScienceDaily*, 4 Sep 2010).

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