

Interferon therapy offers new hope for kids with asthma

February 25 2014, by David Stacey



A new and emerging field in medicine - which involves the study of a group of proteins known as Interferons - could help unlock therapies for a range of diseases, according to a researcher who has recently won a grant to study the role of Interferons in childhood asthma.

Dr Vanessa Fear, who works at the Telethon Institute for Child Health Research - an affiliate of The University of Western Australia - has an Early Career Researcher grant of \$75,000.

Dr Fear has cloned 14 subtypes of Interferon from RNA samples and hopes her work will not only contribute to the development of a drug that will target asthma, but also cancer - her other field of research.

Dr Fear is investigating links between viral infection, Type I Interferon, the development of allergen tolerance and a predisposition to asthma. (Allergens include dust, pollen and dust-mites and occur in different numbers in every household). Interferons help the immune system fight disease but in some people may inadvertently cause a predisposition to asthma.

Dr Fear is therefore looking at the number of fever-inducing [viral infections](#) of the airways a child has before he or she is two years old and the child's ability to either develop a tolerance to allergens (and not react to them) or to develop asthma. She has found that if a child has a viral infection in early life, the Interferon produced by the body in response to the infection could actually interfere with the normal mechanism in the airways and predispose the child to asthma in later life.

"High levels of Interferon could inhibit the tolerance process," she said.

Using data from TICHR's 158-family, 10 year Childhood Asthma Study, Dr Fear is following up what happened to babies who showed a high risk for asthma when they were born and what happened to babies who showed a low risk for asthma at birth.

A subtype of Type I Interferon - Alpha 2 - which is already being used to treat cancer, could be the key to preventing the viral infection early in life causing a predisposition to [asthma](#).

"But it will be at least a decade before we can develop a drug," she said.

Provided by University of Western Australia

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