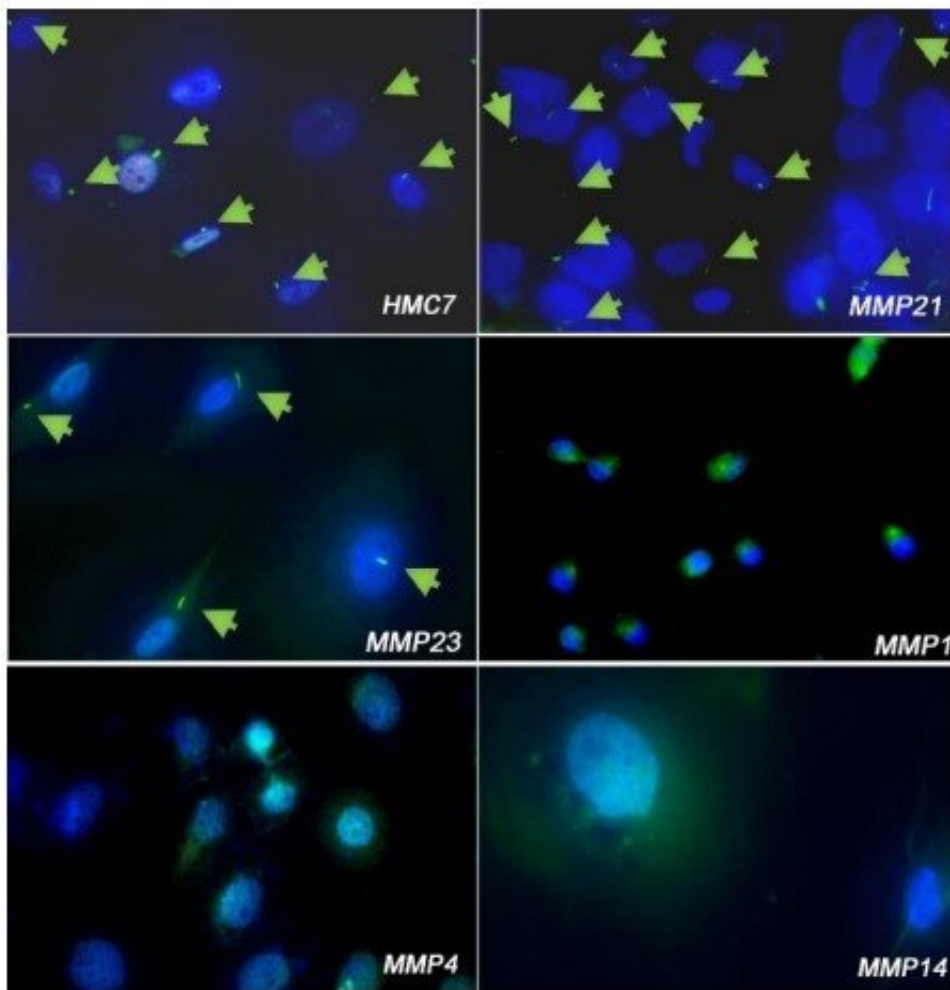


Cellular cilium an early sign of mesothelioma differentiation

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IF analysis of PC expression in selected primary MPM and non-tumoral mesothelial cell lines. PC-positive cell lines: HMC7 normal mesothelial, MMP21, MMP23; PC-negative cell lines: MMP1, MMP4, MMP14. blue: dapi; green: Arl13b. Magnification 20 \times . Primary cilia are indicated with arrows. Credit: *Cancers* (2022). DOI: 10.3390/cancers14215216

A new study has investigated the expression of the primary cilium in mesothelioma, finding that primary cilia is preferentially lost in the more aggressive subtype of mesothelioma and further research may confirm its potential prognostic and diagnostic value.

This is the first evidence that different [mesothelioma](#) types, characterized by different levels of aggressiveness, show a different pattern of primary cilium expression.

Primary cilium is an organelle protruding from the [cell membrane](#) that, like an antenna, collects signals from the [extracellular space](#) and transduces information into cells. Many tumors do not express the primary cilium thereby overriding its tumor suppressor function.

Despite the importance of the [primary cilium](#), there is still a lot to understand about its functions.

The study, published in the journal *Cancers*, was directed by Antonio Giordano, M.D., Ph.D., Professor at the Department of Medical Biotechnology of the University of Siena and President of the Sbarro Health Research Organization (SHRO).

"With this study we have identified a possible marker of the heterogeneity of this orphan disease, mesothelioma, a tumor with still poor prognosis," said prof. Giordano. "The improvement of existing treatments for mesothelioma is mainly hampered by the heterogeneity that characterizes it."

"This study underlines the importance of tailored therapies for mesothelioma patients," said Cristiana Bellan, Professor at the Department of Medical Biotechnology of the University of Sien, "and in

this context our analysis can help identify which patients could benefit from specific treatment."

"Analysis of Primary Cilium Expression and Hedgehog Pathway Activation in Mesothelioma Throws Back Its Complex Biology" is published in *Cancers*.

More information: Marcella Barbarino et al, Analysis of Primary Cilium Expression and Hedgehog Pathway Activation in Mesothelioma Throws Back Its Complex Biology, *Cancers* (2022). [DOI: 10.3390/cancers14215216](https://doi.org/10.3390/cancers14215216)

Provided by Sbarro Health Research Organization

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