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PhD in Biochemistry, University of Würzburg/Germany, 1993
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Science

Spinal Muscular Atrophy (SMA) is a devastating neurodegenerative disease characterized by the selective loss of the motor neurons in the spinal cord, which results in progressive paralysis and eventual death. There is no effective cure. At the molecular level, SMA is caused by reduced levels of the Survival of Motor Neurons (SMN) protein, which has a crucial albeit indirect role in pre-mRNA splicing: it catalyses assembly of Sm proteins onto the spliceosomal snRNAs. Every cell, however, needs pre-mRNA splicing, and it remains a complete enigma why SMA affects only motor neurons. One hypothesis suggests that SMN might have a second, neuron-specific function. Dr. Tilmann Achsel, sr. scientist in Bart De Strooper's team, studies the Like-Sm (LSm) proteins that also interact with SMN and found that they do have a neuron-specific function, as they participate in the transport of mRNAs from the nucleus to the dendrites/axons. Combining biochemical (purification of mRNP complexes) and cell biological approaches,

Tilmann is now investigating the importance of this process in neurodegeneration, and an eventual role SMN might have.

Selected publications

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