Intracellular Target for Systemic Lupus Erythematodes (SLE)

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Challenge

SLE is a chronic rheumatoid disease of largely unknown origin with a variety of symptoms to be observed. Very often, the function of the immune system is dramatically impaired. The onset of the disease usually occurs at the age of 30 years. For SLE a prevalence of 5 out of 10.000 individuals is estimated. Diagnosis of SLE is usually done by detection of auto-antibodies. However, those are only detectable after onset on the disease. No other prognostic means are known until now. For therapy, immune-suppressive drug are applied. Up to now, no causal method of treatment is available.

Technology

The technology describes a novel genetic marker for SLE and its use for the detection of a predisposition, and as a target for SLE therapy. In analysis of a SLE cohort (n=417), in about 2% of all sample analyzed, mutations have been identified in comparison to healthy individuals (n=1712). Bio-computational analysis of the data proves significance of the correlation.

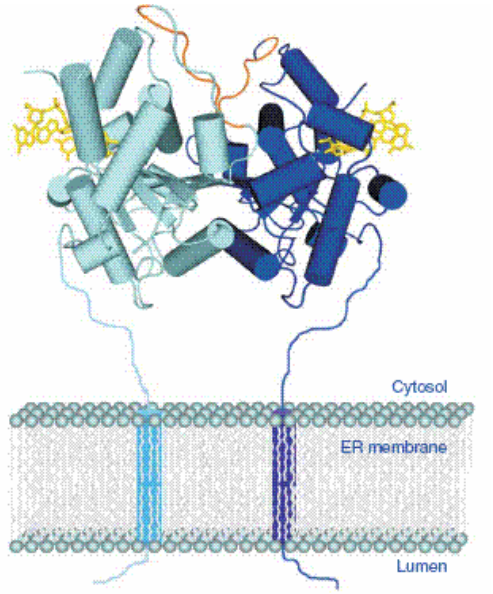

Fig: Hypothetical model of the TREX1 dimer (monomers in cyan and blue) containing the two active sites bound to DNA (yellow). The dimmer is connected through a C-terminal linker to the transmembrane region, which anchors TREX1 in the ER.

Commercial Opportunity

- In-licensing opportunity for development of diagnostic and therapeutic applications
- Scientific collaboration

Patent Situation

A priority establishing European Patent Application was filed in September 2006. An International Patent Application has been submitted.

Further Reading

Lee-Kirsch et al., Nat Genet. 2007; 39(9):1065-7.

Lee-Kirsch et al., J Mol Med 2007; 85: 531-537.

Lee-Kirsch et al., Am J Hum Genet. 2006;79(4):731-7.