

# The effect of transforming growth factor $\alpha_1$ on the crosstalk between autophagy and apoptosis in the annulus fibrosus cells under serum deprivation

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## 1 Abstract

Transmyeloma is another type of cancer which has been linked to the development of lupus nephritis, an inflammation of the liver (ciliary dysfunction) that causes a buildup of swelling and scarring in the liver, and an infection of the liver organ.

This may be a common condition among rheumatoid arthritis (RA) patients, but according to a recent study, researchers at The Scripps Research Institute have discovered that increased serum anti-ribosomal-PBA antibodies may also turn the liver an autoimmune pemphigoid disorder (LAP) into lupus nephritis. The study, published in the journal Anti-Serum Antibiotics and Immunology, is based on an analysis of blood samples of 66 lupus nephritis patients (40 percent who developed LAP and had a chronic liver disease), identified as having lupus before initiating treatment and study and included immune-oncology researchers from The Scripps Research Institute (TSRI) who provide unique insight into the mechanisms involved in lupus nephritis.

In this early, important study, we identified lupus nephritis, an infection of the liver in which secretion of inflammatory antigens leads to scarring of liver (C-NAT), which we think is a possible mechanism driving lupus nephritis, said Jeremy Levin, Ph.D., a professor of chemistry and biochemistry and of molecular and cellular biology at TSRI, and senior author of the paper.

Lupus nephritis can be detected in the liver via blood, throat or nasal samples.

### 1.1 Image Analysis



Figure 1: A Man In A Suit And Tie Standing In Front Of A Mirror