

P004 MicroRNA profiling in interstitial cystitis
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Interstitial Cystitis (IC) is a syndrome of pelvic pain and/or urinary urgency in the absence of a specific cause such as bacterial infection or bladder injury. Pathophysiologic mechanisms of IC are undefined, making the diagnosis and therapeutic approach difficult. To uncover the link between clinical symptoms and molecular regulation of the atypical inflammatory response, we studied the involvement of microRNAs in the regulation of IC response.

MicroRNAs are single-stranded non-coding RNA molecules of ~22-nt, which regulate the mRNA translation. microRNAs have been implicated in the pathogenesis of several inflammatory disorders, including respiratory inflammation and inflammatory bowel disease, both considered similar to IC. Therefore we suggested a role of microRNAs in IC.

To study the alterations of microRNAs levels in IC patients, 348 microRNAs from urinary bladder biopsies from 8 IC patients and 4 controls were screened using Taqman Low Density Microarrays. MicroRNAs miR-7g, -26a, -27a, -324-3p, -511, -95, 192, -379, -133b, -485-5p, -23b, -186, -320, -328, -342, -422b, -422a, -502, -130b, -23a, -199a, -25, -30e-5p, -594, -597, and -572 were significantly up-regulated in IC patients, whereas miR-148a, -182, -493 were down-regulated, suggesting involvement of microRNAs in neurogenic inflammation in IC. We are currently performing *in vitro* studies to identify the mRNA targeted by these IC-induced microRNAs.