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A 37 kDa 2-5A binding protein as a potential biochemical marker for chronic fatigue syndrome.

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PURPOSE: Recent studies have revealed abnormalities in the ribonuclease L pathway in peripheral blood mononuclear cells of patients with the chronic fatigue syndrome. We conducted a blinded study to detect possible differences in the distribution of 2-5A binding proteins in the cells of patients with chronic fatigue syndrome and controls.

PATIENTS AND METHODS: We studied 57 patients with chronic fatigue syndrome and 53 control subjects (28 healthy subjects and 25 patients with depression or fibromyalgia). A radioactive probe was used to label 2-5A binding proteins in unfractionated peripheral blood mononuclear cell extracts and to compare their distribution in the three groups. **RESULTS:** A 37 kDa 2-5A binding polypeptide was found in 50 (88%) of the 57 patients with chronic fatigue syndrome compared with 15 (28%) of the 53 controls ($P < 0.01$). When present, the amount of 37 kDa protein was very low in the control groups. When expressed as the ratio of the 37 kDa protein to the 80 kDa protein, 41 (72%) of the 57 patients with chronic fatigue syndrome had a ratio > 0.05 , compared with 3 (11%) of the 28 healthy subjects and none of the patients with fibromyalgia or depression. **CONCLUSION:** The presence of a 37 kDa 2-5A binding protein in extracts of peripheral blood mononuclear cells may distinguish patients with chronic fatigue syndrome from healthy subjects and those suffering from other diseases.

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