CONCLUSION
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This is the first report showing a reciprocal relationship of the serum level of alpha-1-inhibitor-3 (A1I3) with REM sleep loss. Biochemically, A1I3 is a protease inhibitor universally known to be a negative acute phase protein. The modulation of this protein in proportion to REM sleep deprivation suggests its possible use as a biomolecular marker to diagnose REM sleep loss. This decrease is possibly due to increased levels of NE induced by REM sleep deprivation. The decrease of the protease inhibitor also helps in explaining a number of REM sleep loss associated physiological changes including decreased immune response, loss of body weight and body temperature in spite of an increase in food intake.