Japanese scientists study hibernation

Japanese researchers say their discovery of a possible hibernation hormone in certain animals' brains may unlock the mystery behind that dormant state.

Hibernation allows animals -- including bears and rodents -- to survive the harshest of winter conditions. If the study's findings are confirmed, the hormone would represent the discovery of the first essential brain signal governing the seasonal adaptation.

Since hibernation endows animals with an ability to cope under otherwise lethal conditions, the researchers say the candidate hormone might also pave the way toward clinical therapies that would give humans the same kind of protection.

"One of the most curious biological phenomena in mammals is their ability to hibernate circannually, which allows them to survive unusually low body temperatures at or near freezing," said study author Takashi Ohtsu of Japan's Kanagawa Academy of Science and Technology.

Reviewers noted the finding has more than passing biological interest, since understanding how tissues cope with cardiovascular and oxidative stresses associated with hibernation might have direct clinical relevance.

The research is reported in the April 7 issue of the journal Cell.