Short term factors which may stop us eating:
Food in stomach – ghrelin released from stomach directly proportional to the emptiness of the stomach.
Digestion – short term section of the intestinal tract that leads to the small intestine, it stimulates the release of another key hormone, CCK, opposite effect to ghrelin.
Fall in ghrelin levels – fall in blood ghrelin levels during a meal acts as another satiety signal
Blood glucose levels – Glucostat theory, blood glucose levels a key signal to the brain falling when hungry, rising as we eat. Respond rapidly to food intake, don’t vary much under normal circumstances not enough to be an effective signal.

Long term factors controlling how much we eat:
body weight – muscle mass & fat
fat store in adipocyte cells – make fatty tissue, number of adipocytes a person has determined by diet and fixed after first few years of life.
Control how much we eat and maintain a relatively constant weight mechanisms that control feeding need to know how much fat we are storing, mechanisms receive a signal about our fat reserves.

Signals indicating body weight:
evidence from genetically ob mice – lack a gene that controls production of the satiety signal leptin from adipose tissue.
Leptin – hormone released from adipose tissue, acts as an indicator of body weight to hypothalamic mechanisms controlling long-term food intake.
Why they eat continuously? miss a gene that produces Leptin, hormone acts as a satiety signal, injections of leptin into the ob mice stop them eating as much.
Why not use treatment of humans? rare individuals who are overweight because of a genetic leptin deficiency, the majority have normal or even higher than normal levels of leptin. The problem in these cases seems to be that the brain mechanisms controlling feeding behaviour are insensitive to the effects of leptin.

A02:
No doubt that biological factors play a role in eating behaviour. Relevant to normal regulation. Reductionist-focuses only on the biological systems it ignores the psychological, social and cultural factors that influence our eating behaviour. A full description requires research into these areas also. Number of studies on humans increasing area still relies heavily on research with non-human animals. Particularly the case with the role of neurotransmitters in the hypothalamus and the functions of ghrelin and CCK release from the stomach duodenum. This raises the problem of generalising from animal to humans. It is likely that there will be subtle differences in the control of feeding between humans and other animals.