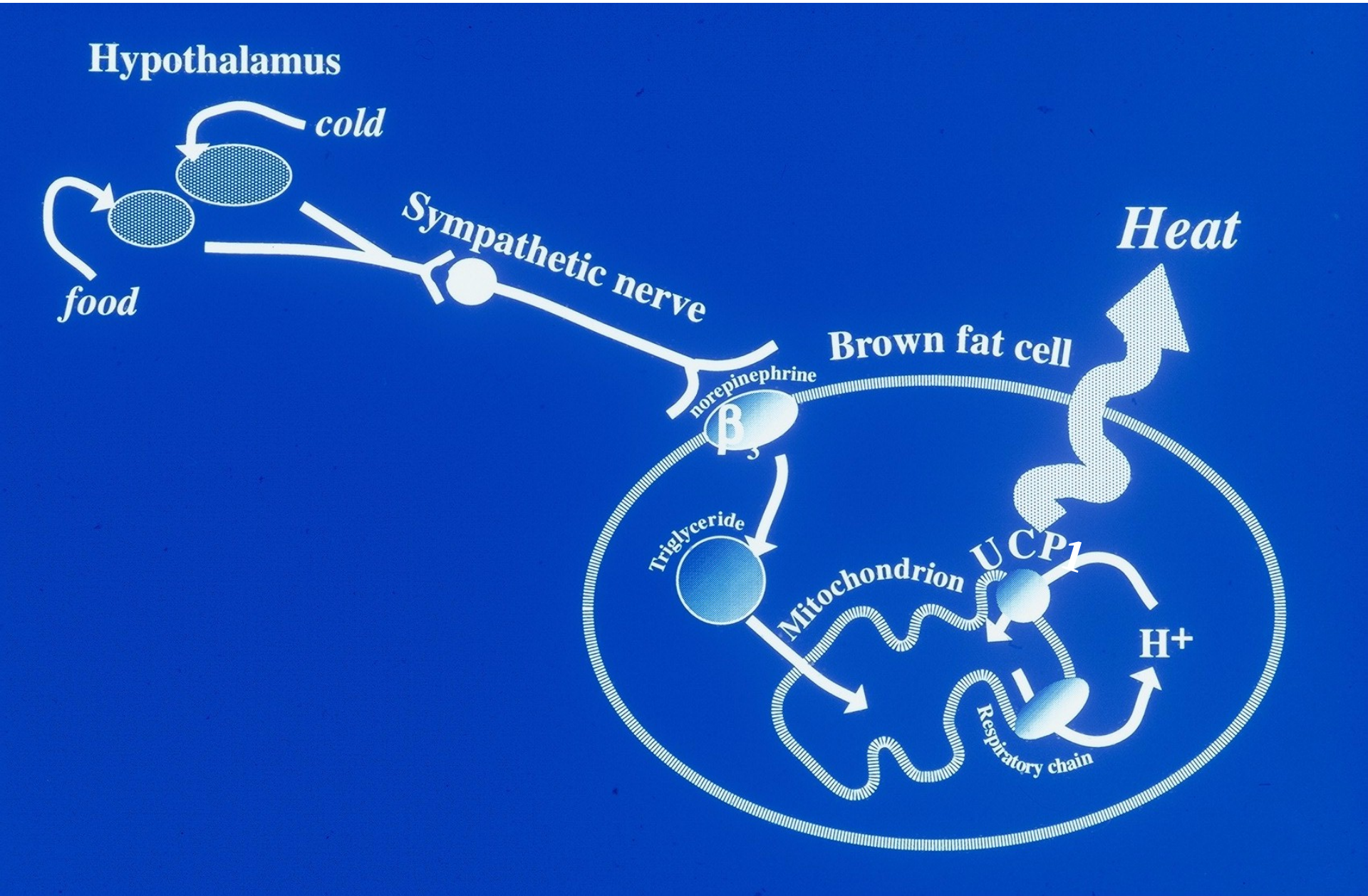
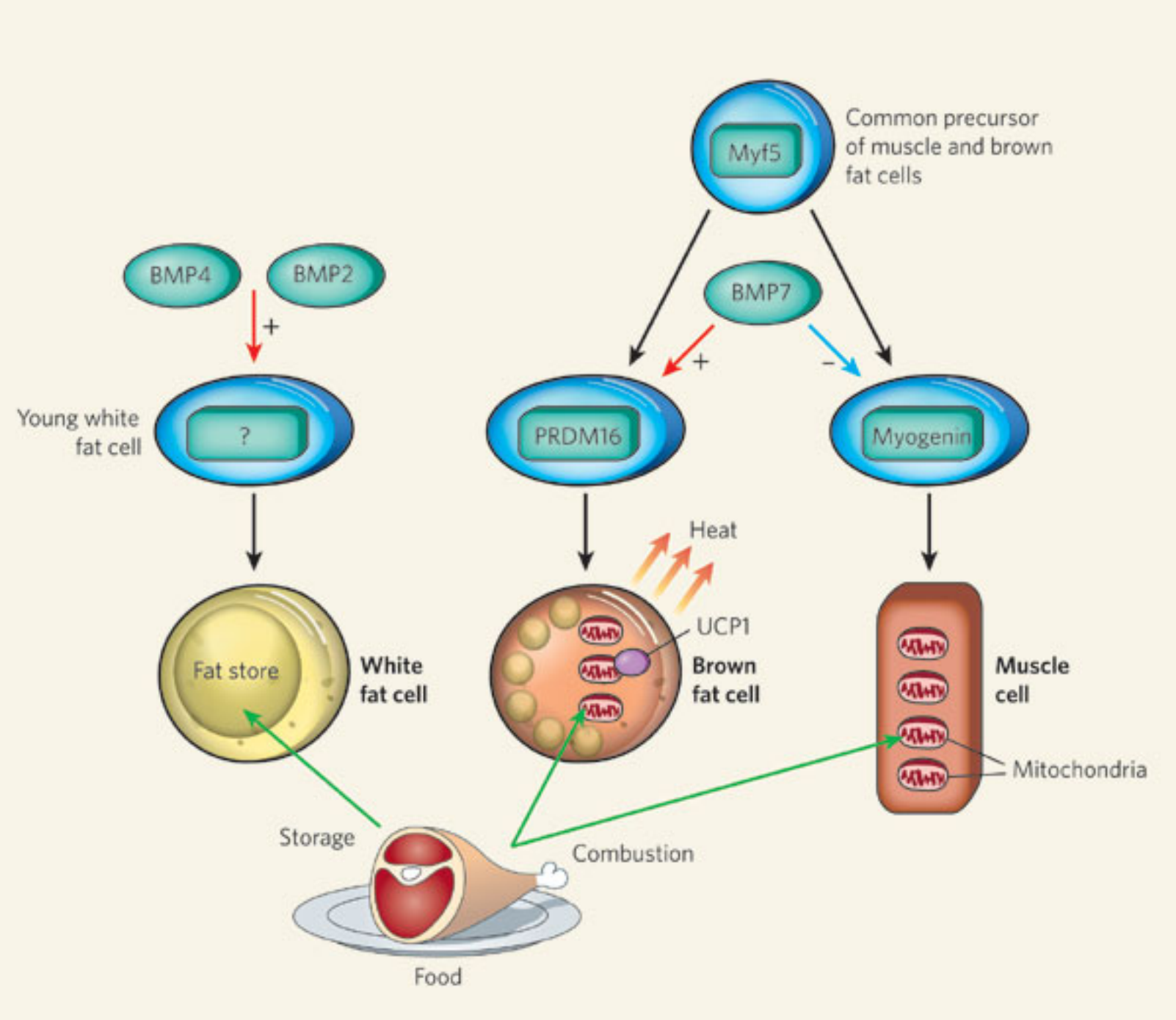
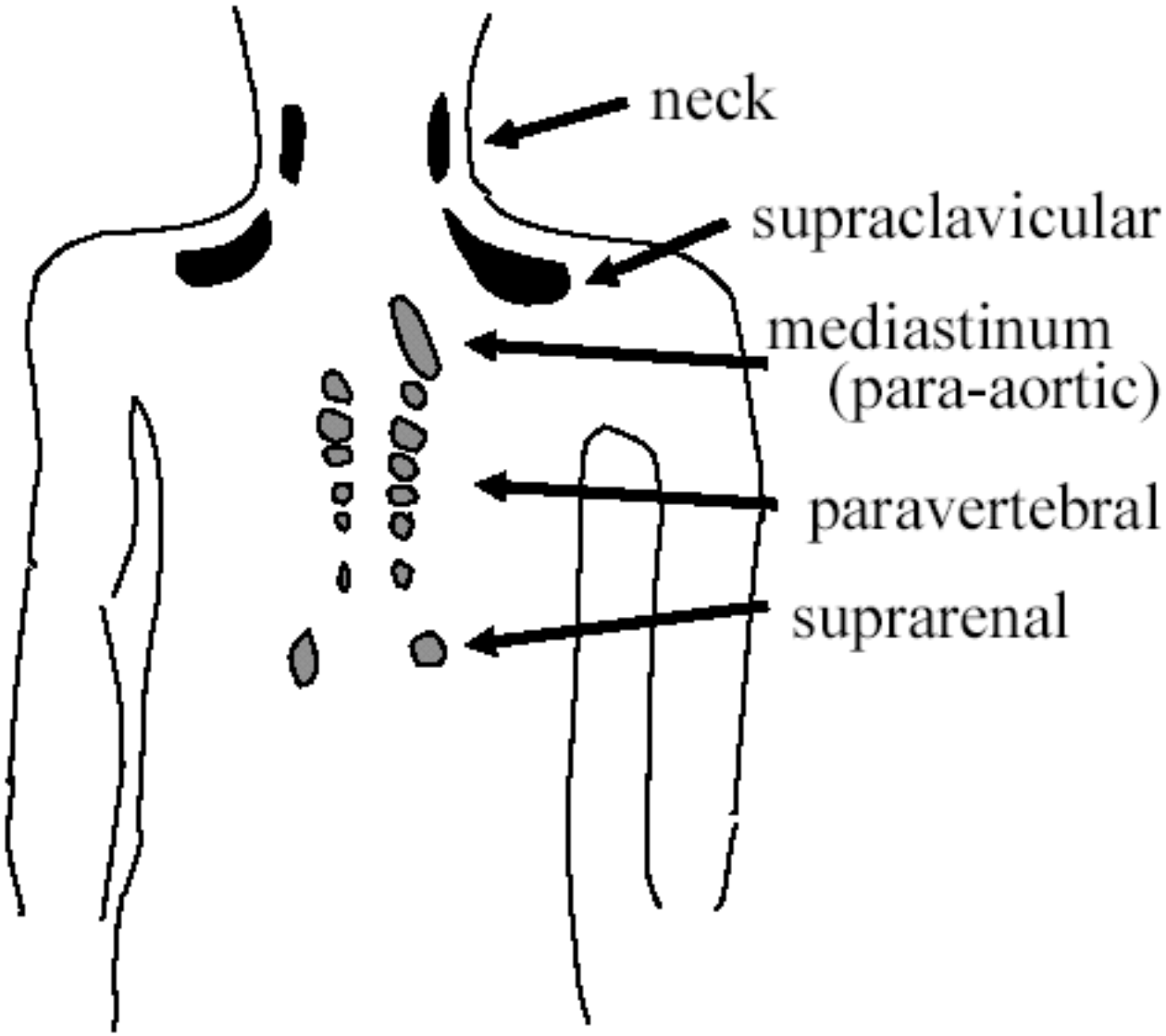

Hypothalamus
cold
food
Sympathetic nerve
Heat
Brown fat cell
norepinephrine
β3
Triglyceride
Mitochondrion
UCP1
H+
Respiratory chain


Common precursor of muscle and brown fat cells
Myf5
BMP4
BMP2
BMP7
+
+
−
Young white fat cell
?
PRDM16
Myogenin
Heat
UCP1
Fat store
White fat cell
Brown fat cell
Muscle cell
Mitochondria
Storage
Combustion
Food


neck
supraclavicular
mediastinum
(para-aortic)
paravertebral
suprarenal