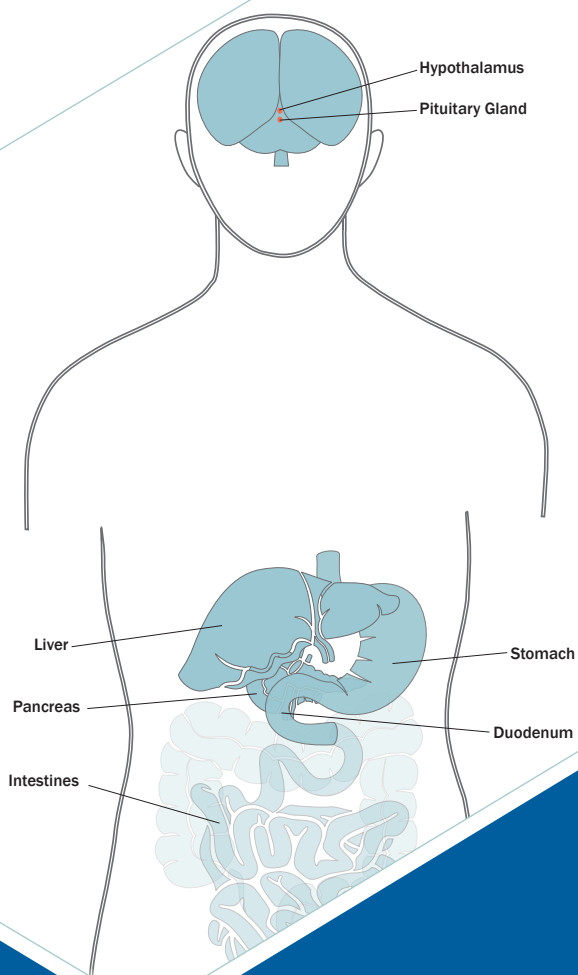


Appetite, Adiposity, and Growth



Endocrine Regulation of Appetite and Adiposity

Bio-Techne is committed to providing high quality research reagents to support endocrine research. R&D Systems cDNA, proteins, antibodies, and immunoassays along with Tocris Bioscience small molecule agonists and antagonists are ideal tools to detect and investigate the role of Appetite and Adiposity signals in your model system.

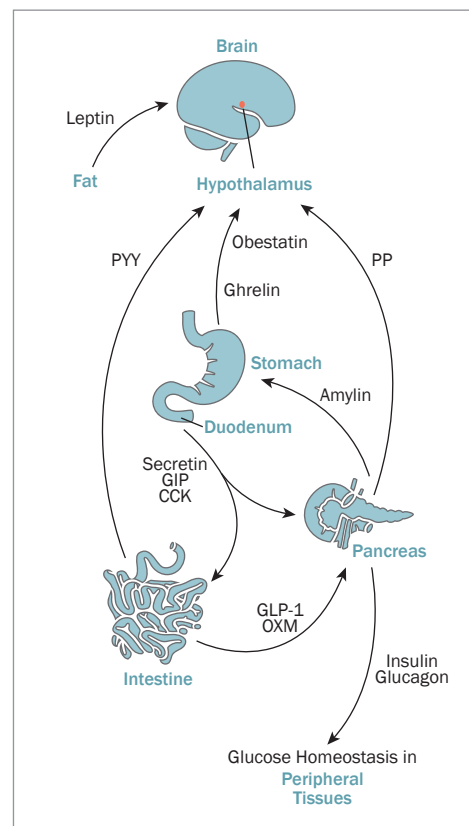
Endocrine Regulation of Appetite/Satiety

Tools to Detect

Hormones and Receptors	Immunoassays	Antibodies
CCK-A R		H M R
GLP-1R		H
GLP-2R		H
Ghrelin		H M
Neuropeptide Y1 Receptor		H
Glucagon	✓	H M
Glucagon R		
Insulin	H Ca P	H M B
Insulin R/CD220	H	H M
Pancreatic Polypeptide/PP		H
Obestatin		H
GPR39		H

Tools to Investigate

Hormones and Receptors	Recombinant Proteins/Peptide Hormones	Small Molecule Agonists/Antagonists	VersaClone™ cDNA
Cholecystokinin/CCK	✓		
CCK-A R		✓	H M
CCK-B R		✓	H M
GLP-1	H R		
GLP-2	H		
GLP-1R		✓	H M
GLP-2R		✓	
Ghrelin	H R		
GHS-R1a		✓	
GHS-R1b		✓	
Peptide YY	✓		
Neuropeptide Y1 Receptor		✓	
Neuropeptide Y2 Receptor		✓	H
Glucagon	✓		
Glucagon R		✓	H M
Insulin	H		
Insulin R/CD200		✓	H
Pancreatic Polypeptide/PP	H		
Neuropeptide Y Receptor Y4		✓	H
Glucose-dependent Insulinotropic Peptide/ Gastric Inhibitory polypeptide/GIP	H		H
GIP-R		✓	
Oxyntomodulin	✓		
Obestatin	R		
GPR39			H



Endocrine signals between the gut, adipose tissue, and the brain in response to food intake act in concert to regulate appetite and food consumption.

Adiposity Endocrine Signals

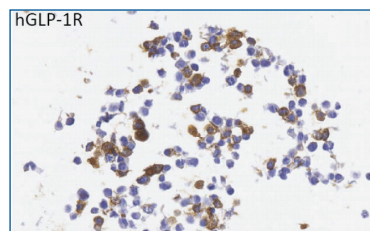
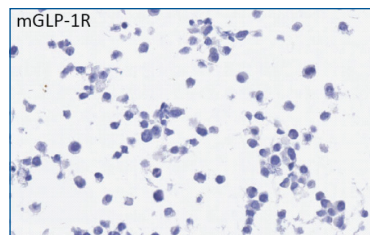
Tools to Detect

Hormones and Receptors	Immunoassays	Antibodies
Insulin	H Ca P	H M B
Insulin R/CD220	H	H M
Leptin	H M R	H M
Leptin R	H M	H M
Calcitonin Receptor		H
Adiponectin/Acrp30	H M R	H M R
Apolipoprotein IV	H	H
Resistin	H M	H M
IL-6	H M R Ca CR E F P	H M R Ca CR E F P
IL-6 R	H M	H M
GP130	H M	H M R
TNF- α	H M R B Ca CR E F GP Rb RM Pr	H M R B Ca CR E GP RM P
TNF RI	H M R	H M
TNF RII	H M R	H M

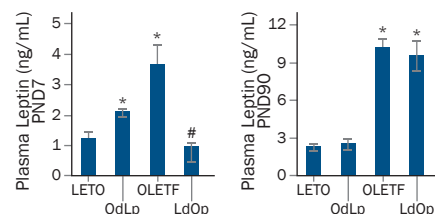
Tools to Investigate

Hormones and Receptors	Recombinant Proteins/Peptide Hormones	Small Molecule Agonists/Antagonists	VersaClone cDNA
Insulin	H		
Insulin R/CD200		✓	H
Leptin	H M R		
Leptin R	H M	✓	
Amylin	✓		
Calcitonin Receptor		✓	H M
Adipo R1		✓	H
Adipo R2		✓	
Resistin	H M		
IL-6	H M R Ca CR E F P		
IL-6 R	H M		
GP130	H M R		M
TNF- α	H M R B Ca		
TNF RI	H		R
TNF RII	H M	✓	R

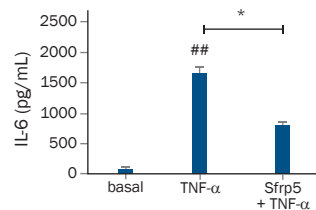
Species Key: H Human, M Mouse, R Rat, B Bovine, Ca Canine, CR Cotton Rat, E Equine, F Feline, GP Guinea Pig, P Porcine, Pr Primate, Rb Rabbit, RM Rhesus/Macaque



Detection of GLP-1R by IHC. The HEK293 human embryonic kidney cell line was transiently transfected with mouse (top) or human (bottom) GLP-1R. Cells were fixed and human GLP-1R was detected using the Mouse Anti-Human GLP-1R Monoclonal Antibody (Catalog # MAB28141). Figure adapted from Jun, LS *et al* (2014) PLoS ONE 9:e93746.



Rat plasma Leptin quantification by ELISA. Plasma Leptin levels were measured on post-natal day 7 (PND7) or 90 (PND90) using the Mouse/Rat Leptin Quantikine® ELISA Kit (Catalog # MOB00). Leptin was measured in pups from four experimental groups: Otsuka Long Evans Tokushima Fatty rat (OLETF) dams raising OLETF pups control group, OLETF dams raising Long Evans Tokushima Otsuka rat (LETO) pups (OdLp), LETO dams raising LETO pups control group, and LETO dams raising OLETF pups (LdOp). Figure from Schroeder, M. *et al* (2014) PLoS ONE 8:e59937.



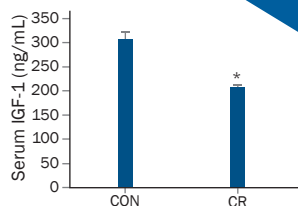
Quantification of IL-6 secretion by ELISA. Primary human adipocytes were exposed to Sfrp5 prior to incubation without or with TNF- α . Cytokine release by the adipocytes was quantified using the Human IL-6 Quantikine ELISA Kit (Catalog # D6050). Figure from Carstensen, M. *et al* (2014) PLoS ONE 9:e85906.

Endocrine Regulation of Growth

Bio-Techne is pleased to offer high quality tools designed to help researchers detect and investigate growth hormone secretion and action.

Tools to Detect

Hormones and Receptors	Immunoassays	Antibodies
Somatostatin Receptor 2		H
Somatostatin Receptor 3		H
Somatostatin Receptor 5		H
Ghrelin		H M
Growth Hormone	H	
Growth Hormone Receptor		H M R
IGF-I	H M R	H M
IGF-I R	H M	H M
Insulin Receptor/CD220	H M R	H M
Obestatin		H
GPR39		H



Quantification of serum IGF-1 by ELISA. The IGF-1 concentration in serum from control diet (CON) or calorie restricted diet (CR) C75BL/6 mice was determined using the Mouse/Rat IGF-1 Quantikine ELISA Kit (Catalog # MG100). Figure from Harvey, A.E. *et al* PLoS ONE 9:e94151.

Tools to Investigate

Hormones and Receptors	Recombinant Proteins/Peptide Hormones	Small Molecule Agonists/Antagonists	VersaClone cDNA
GHRHR		✓	H M
Somatostatin	H	✓	
Somatostatin Receptor 1		✓	H
Somatostatin Receptor 2		✓	H
Somatostatin Receptor 3		✓	H
Somatostatin Receptor 4		✓	H
Somatostatin Receptor 5		✓	H
Ghrelin	H R		
GHSR1a		✓	H

Hormones and Receptors	Recombinant Proteins/Peptide Hormones	Small Molecule Agonists/Antagonists	VersaClone cDNA
Growth Hormone	H		
Growth Hormone 2	H		
Growth Hormone R	H M R		
IGF-I	H M R		
IGF-I R	H M	✓	
Insulin Receptor/CD220	H	✓	H M
Obestatin	R		
GPR39			H

Species Key: H Human, M Mouse, R Rat

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