Effects of the Sympathetic and Parasympathetic Divisions of Various Tissues.

Organ	Sympathetic Effect and Receptor Type	Parasympathetic Effect and Receptor Type
Adipose tissue	Fat breaking and release of fatty acids (α_2,$ß_1$)	None
Erector pili muscle	Contraction (α_1)	None
Blood (platelets)	Increases coagulation (α_2)	None
Blood vessels Arterioles (carry blood to tissues)		
-Digestive organs	Constriction (α_1)	None
-Heart	Constriction (α_1), dilation ($ß_2$)	None
-Kidneys	Constriction (α_1, α_2), dilation ($ß_1$, $ß_2$)	None
-Lungs	Constriction (α_1), dilation ($ß_2$)	None
-Skeletal muscles	Constriction (α_1), dilation ($ß_2$)	None
-Skin	Constriction (α_1, α_2)	None
-Veins (carry blood away from tissues)	Constriction (α_1, α_2), dilation (ß2)	None
Eye		
-Ciliary muscle	Relaxation for far vision ($ß_2$)	Contraction for near vision (m)
-Pupil	Dilated (α_1)	Constricted (m)
Gallbladder	Relaxation ($ß_2$)	Contraction (m)
Glands		
-Adrenal	Release of epinephrine and norepinephrine (n)	None
-Gastric	Decreases gastric secretion (α2)	Increases gastric secretion (m)
- Lacrimal	Slight tear production (α)	Increases tear secretion (m)
-Pancreas	Decreases insulin secretion (α_2)	Increases insulin secretion (m)
	Decreases exocrine secretion (α)	Increases exocrine secretion (m)
- Salivary	Constriction of blood vessels and slight production of a thick, viscous (α_1)	Dilation of blood vessels and thin, copious saliva (m)
-Sweat		
~Apocrine	Thick, organic secretion (m)	None

Effects of the Sympathetic and Parasympathetic Divisions of Various Tissues.

Organ	Sympathetic Effect and Receptor Type	Parasympathetic Effect and Receptor Type
~Merocrine	Watery sweat from most of the skin (m): sweat from the palms and soles (α_1)	None
Heart	Increases rate and force of contraction ($ß_1$, $ß_2$)	Decreases rate of contraction (m)
Liver	Glucose released into blood (α_1, $ß_2$)	None
Lungs	Dilates air passages ($ß_2$)	Constricts air passageways (m)
Metabolism	Increases up to 100% (α, ß)	None
Sex organs	Ejaculation (α_1), erection	Erection (m)
Skeletal muscles	Breakdown of glycogen to glucose ($ß_2$)	None
Stomach and intestines		
-Wall	Decreases tone (α_1, α_2, $ß_2$)	Increases motility (m)
-Sphincter	Increases tone (α_1)	Decreases tone (m)
Urinary bladder		
-Wall (detrusor)	None	Contraction (m)
- Neck of bladder	Contraction (α_1)	Relaxation (m)
-Internal urinary sphincter	Contraction (α_1)	Relaxation (m)

M=muscarinic
N = nicotinic

from Table 16.3 Physiology text, reprinted by Vincent Samuel Fall 2007