

THE MUSCULAR SYSTEM

INTRODUCTION

The muscular system consists of nearly 700 organs, referred to as **SKELETAL MUSCLES**, that are comprised of skeletal muscle tissue and associated connective tissue.

The muscular system has four primary functions: (1) Producing movement, whether it is the entire body, specific body parts, or substances within the body (e.g. pushing venous blood towards the heart). (2) Maintenance of body posture. (3) Regulation of organ volume (e.g. opening and closing of sphincters). (4) Heat production for body temperature homeostasis.

In this lab we will concentrate on how skeletal muscles produce body movement. Skeletal muscles are attached to bones or other body structures by **TENDONS**. Most muscles cross at least one joint and when the muscle contracts, there is unequal movement of the articulating bones. Usually the bone(s) on one side or the articulation (joint) remain stationary, while the bone(s) on the other side move in response to the muscular contraction. The **ORIGIN** of a muscle is its attachment to the bone that remains stationary when the muscle contracts. The **INSERTION** of a muscle is its attachment to the bone that moves in response to the muscle contraction. In the appendages, the origin is proximal, and the insertion is distal. The **ACTION** of a skeletal muscle is the body movement it produces when contraction occurs.

PROCEDURE

Identify the skeletal muscles and their origins, insertions, and actions listed in tables.