



# ECVP/ESVP Summer School in Veterinary Pathology



## Marie Curie Training Courses

### Summer School 2006 – Muscle Case 17

#### 17- Tissue from a horse

##### *Ultrastructural picture*

Skeletal muscle.

Two cells of the same type (myofibres) are present on the electronmicrograph. The intercellular space exhibits a 100-nm-thick basement membrane. The cytoplasm of one myofibre contains numerous oval-shaped 1- $\mu$ m-diameter mitochondria in a subsarcolemmal and intermyofibrillar location. The cytoplasm is filled with myofibrils, in the cross section.

Free in the cytoplasm, and also in between the myofibrils, are abundant 40 to 50-nm-diameter round particles of electron-dense material. The excessive material is not demarcated by a membrane (non-lysosomal storage).

In the inset, the heterogeneous particles are heterogeneous (black and gray elements admixed), interpreted as granules of polysaccharides (different from glycogen that appear as homogeneous round particles). Inside the particles area, membrane elements are interpreted as degraded mitochondria or transverse tubules of sarcoplasmic reticulum.

Diagnosis : Myofibres, cytoplasmic storage with glycogen –like particles.

Name of the disease: Equine polysaccharide storage myopathy.