Dr. David Thomson's Research

Major Emphasis: Type II; Minor Emphasis: Type I

1) ***Research Result***
   a) To create a drug that does the following:
      i) Greater insulin sensitivity
      ii) Decreased insulin resistance
      iii) Will level out blood glucose peaks and valleys
      iv) Will decrease need for insulin injections
      v) Improved muscular performance
      vi) Stimulate Glut4 production
      vii) T1 muscular survival

2) ***The Research "How"***
   a) Skeletal Muscle
   b) AMPK protein regulates glucose uptake—thus
      i) makes cells less insulin dependent
      ii) giving cells greater insulin sensitivity and less insulin resistance
   c) AMPK helps cells survive stress—thus
      i) allows for less cell death when cells are energy deprived (such as in uncontrolled T1 or T2)
   d) LKB1 protein activates AMPK
   e) LKB1 lives in the nucleus and there is inactive
   f) Drug will pull LKB1 out of the nucleus, thus activating AMPK, leading to the above results