UNCATEGORIZED

# PROTEOMICS 73 YEARS AGO

24.12.2006

Otto Warburg was not only lucky to win a Nobel prize but also three of his scholars. On of these, Hugo Theorell, describes the discovery of nicotinic acid amide as picrolonate in December 1933. The initial yield of the substance was poor – crystals of a few miligrams were obtained from 200 l of horse blood. Warburg estimated that they would have to kill all horses in Germany to find out the constitution. Theorell continues (quoted from Krebs: Warburg. 1981, p32)

> Fortunately, they had the elementary analysis, melting point and the molecular weight. Now a friend of Warburg's, Walter Schöller, who was the head of the Schering Kahlbaum Company Laboratory, made the simplest trick in the world: he looked into 'Beilstein' for substances with the same composition and melting point and within no time he said: "Well, this is nicotinic acid amide, synthesized by Mr so-and-so in 1878 or something like that." Warburg's comment was as laconic as usual: "Yesterday we could not buy it for any money in the world, today we can buy it for two marks a pound."

Nicotinamide had powerful inhibitory effects on mycobacteria and led to the synthesis by Hoffman-La Roche of isonicotinic acid hydrazide or *isoniazid* – and Warburg had the chance to read his own obituary in The Times (Krebs, p.67) where he complained that the discovery of nicotinamide had been deliberately omitted (his former institute is here).
Looks pretty much that this discovery worked along the same strategy as proteomics today: 2-DE to tandem MS (MS/MS) and database lookup. Yea, yea.