Memorial tribute to Frantisek Franek

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Sadly, on Tuesday 25 January 2005, Frantisek Franek the Czech cell culture scientist died. He was 75 and died at his home in Prague. Frantisek earned his Diploma in Biology from Charles University in 1954, PhD from the Prague Institute of Chemical Technology in 1957, DSc from the Czechoslovak Academy of Sciences in 1971, and in 1981 he became a corresponding member of the Czechoslovak Academy of Sciences. His first job was a researcher at the Research Institute of Food Technology. Beginning in 1959, the rest of his entire career was spent at the Czechoslovak Academy of Sciences as scientist, senior scientist and later as a leading scientist.

His talents did not go unrecognised. In 1981 he was awarded the Czechoslovak National Prize for “Original contributions to elucidation of antibody structure”. In 1986 he received the Prize of the Czech Republic for “Development of hybridoma technology” and 1990 the J. Heyrovský Golden Medal for the Contribution to the Progress in Chemical Sciences. At the 18th ESACT meeting, 2003 Franek was honoured with an ESACT medal for his scientific achievement and contribution to cell culture.

Franek made a major contribution to the development of cell culture with his work on media formulation and apoptosis. In the late 80s and early 90s, beginning with a study of serum replacement, he found that iron supplement could

replace transferrin in a broad range of cell culture applications. He went on to develop a new serum free medium and to demonstrate quite conclusively the effectiveness of peptides in enhancing the monoclonal antibody production and to correlate such activity with their growth-suppressing activity. Prior to his studies scientists had accepted the view that hydrolysates are rich source of nutrients. Together with H. Katinger, he demonstrated that protein hydrolysates could also serve as a source of peptides endowed with specific activities. They showed that enhancement of growth and production could be achieved even with peptides composed of dispensable non-essential amino acids, and that the enhancement of protein production was relatively independent from the enhancement of the growth rate.

Franek understood the limitations of apoptosis in culture when he wrote that “the undesirable onset of apoptosis in hybridoma cultures considerably limits the lifespan of cultures aimed at monoclonal antibody production.” He showed that the extent of apoptosis could be suppressed by media fortification. He found that the starvation-induced apoptosis could be prevented, to a significant degree, by re-feeding with amino acid mixtures, whereas a vitamin mixture was ineffective.

When I visited him at the Czechoslovak Academy of Sciences after the “velvet revolution” I found him so proud of the political changes but was disappointed that his research has not benefited due to ruined infrastructure and lack of funds. Nevertheless he cherished the decision to travel abroad freely. It was no longer necessary to apply for a permission and you could see Frantisek afterward at many conferences and meetings around the World. In 1996 he joined the European consortium on apoptosis in cell culture where he was a valuable partner in the Framework 4 funded project.

His presence will be greatly missed by all cell culture scientists and engineers. We recommend that all animal cell technologists take the time to

read at least his main works. This is the best tribute we can make to one of the most dedicated researcher in cell culture technology.