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Serum IRAP: A novel direct biomarker of insulin-resistance**Serge P Bottari**

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Insulin resistance (IR) affects more than half of the adult population worldwide. Type-2 diabetes (T2D) which often follows in the absence of treatments affects more than 400 million people and represents more than 10% of the health budget in industrialized countries. A preventive public health policy is urgently needed in order to stop this constantly progressing epidemic. Indeed, early management of IR does not only strongly reduce its evolution towards T2D but also strongly reduces the appearance of cardiovascular comorbidity as well as that of associated cancers. There is however currently no simple and reliable test available for the diagnosis or screening of IR. We therefore developed an ELISA for the quantitative determination of a novel circulating biomarker of IR, IRAP. IRAP is associated with and trans-located in a stoichiometric fashion together with GLUT4 to the plasma membrane in response to insulin in skeletal muscle and adipose tissue. Its extracellular domain (IRAPs) is subsequently cleaved and secreted in the blood stream. In T2D IRAP translocation in response to insulin is strongly decreased. Our patented sandwich ELISA is highly sensitive and specific, robust and very cost-effective. Results of pilot studies indicate an excellent correlation between IRAPs levels and insulin sensitivity. We therefore think that plasma IRAPs is a direct marker of insulin sensitivity and that the quantitative determination of its plasma levels should allow large-scale screening of populations at risk for IR and T2D thereby allow the enforcement of a preventive health policy aiming at efficiently reducing this epidemic.

Biography

Serge P Bottari has obtained his MD and his PhD degrees at the Free University Brussels, Belgium. He has specialized in OB/GYN and was a Post-Doctoral Fellow and Research Associate at UC San Francisco. After having been a Project Leader at Sandoz and CIBA-Geigy, he became Professor of Cell Biology at the Medical School in Grenoble and Head of Endocrine Biology in 1993. He has published over 65 articles in premium journals and is an Editorial Board Member. His current work focuses among others on the molecular mechanisms involved in insulin resistance and on the development of novel diagnostic tools.

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