M13 EVALUATION OF THE CYBERFLUOR TIME-RESOLVED FLUORESCENCE IMMUNOASSAY FOR HUMAN GROWTH HORMONE IN THE DIAGNOSIS OF GROWTH HORMONE DEFICIENCY. JoAnne McLaurin, Sinikka K. Makela, Eleftherios P. Diamandis* and Graham Ellis, Department of Biochemistry, Hospital for Sick Children, 555 University Avenue, Toronto M5G 1X8 and *CyberFluor Inc., 179 John Street, Toronto, Ontario, M5T 1X4.

We evaluated the FIAgen^{TM} time-resolved fluorescence immunoassay [FIA] for human growth hormone (GH) in serum (CyberFluor Inc., Toronto). We analyzed 371 sera by FIA and by our in-house RIA. The methods correlated well: FIA = 0.832 RIA + 0.692 ug/L, r = 0.958, S_{yx} = 0.013. Three hundred and four samples represented 60 GH stimulation tests on children under investigation for GH deficiency. Stimulation was by exercise, arginine, L-dopa/propranolol, insulin, sleep or glucose in 10, 10, 23, 10, 5 and 2 tests respectively. Biochemical assessment of GH deficiency, impaired GH secretion, and GH sufficiency was based on peak stimulated GH values of <5, 6 - 9, >10 µg/L respectively by RIA (NIAMDD standard). There was concordance between the FIA and RIA in 50 of the stimulation tests. (Table).

	RIA diagnosis		
	GH deficient	GH impaired	GH sufficient
FIA diagnosis			
GH deficient	18	4	-
GH impaired	4	5	2
GH sufficient	-	-	27

Discordance between the two methods in the majority of the remaining tests was generally within the limits of error of both assays. We conclude that the FIA assay is suitable for use in the diagnosis of GH deficiency.