

Suppl Table 1 :Characteristics of the tested IGF-I assays as provided by the manufacturers. These 6 assays are sandwich assays that use a couple of monoclonal antibodies directed against epitopes whose exact nature is not disclosed by the manufacturers. In all cases, IGF-BPs are said to be removed by displacement of endogenous IGF-I by an excess of IGF-II (or analog) as initially proposed by Blum [ref]. The limit of quantification (LOQ) is the lowest amount of IGF-I that can be accurately quantified with an allowable error $\leq 20\%$. The limit of detection (LOD) is the IGF-I concentration corresponding to the 95th percentile value from a number of determinations of IGF-I concentration in free serum samples (see ref. 13 for more details)

Name of the assay	Manufacturer	Automated	Tracer	International standard against which the assay is calibrated	Intra-assay CV	Inter-assay CV	LOQ or LOD in ng/mL	Highest measurable value without dilution (ng/mL)
iSYS	IDS	Yes	Acridinium ester	WHO/NIBSC 02/254	2.9% at 22 ng/mL 1.9% at 163 ng/mL 4.2% at 304 ng/mL	5.4% at 22 ng/mL 3.9% at 163 ng/mL 7.2% at 304 ng/mL	8.8 (LOQ)	1200
LIAISON XL	DiaSorin	Yes	isoluminol	WHO/NIBSC 02/254	5.1% at 70 ng/mL 3.5% at 183 ng/mL 3% at 589 ng/mL	9.6% at 80 ng/mL 7.1% at 187 ng/mL 5.6% at 317 ng/mL	3 (LOD) 10 (LOQ)	1500
Immulin	Siemens	Yes	Alkaline phosphatase	1 st IRP 87/518	3.9% at 77 ng/mL 6.5% at 169 ng/mL 2.9% at 380 ng/mL 3.0% at 689 ng/mL 2.3% at 1053 ng/mL 2.4% at 1358 ng/mL	7.7% at 77 ng/mL 5.4% at 169 ng/mL 7.4% at 380 ng/mL 8.1% at 689 ng/mL 3.7% at 1053 ng/mL 4.7% at 1358 ng/mL	20 (LOQ)	1600
IGFI RIACT	CIS BIO	No	¹²⁵ I	1 st IRP 87/518	3.8% at 49 ng/mL 3.4% at 162 ng/mL 3.2% at 496 ng/mL	3.8 % at 39 ng/mL 8.2 % at 352 ng/mL 5.9 % at 509 ng/mL	1 (LOD)	900
MEDIAGNOST Elisa	MEDIA-GNOST	No	Peroxydase enzyme conjugate	WHO/NIBSC 02/254	5.7% at 138 ng/mL 5.1% at 141 ng/mL 6.6% at 145 ng/mL	6.1 % at 142 ng/mL 6.8 % at 174 ng/mL 2.2 % at 494 ng/mL	1.9 (LOD)	1050
MEDIAGNOST RIA	MEDIA-GNOST	No	¹²⁵ I	WHONIBSC 02/254	4.6% at 56 ng/mL 3.4% at 140 ng/mL 2.5% at 180 ng/mL	4.9 % at 55 ng/mL 6.2 % at 140 ng/mL 4.5 % at 186 ng/mL	2.6 (LOD)	780

Suppl Table 2. Concordance of the different assays if IGF-I SDS (IMMULITE) is < -1.96 (expressed as kappa values)

	XLD	ISYS	Immulite	Mediagnost E20	Mediagnost R22	Cisbio
XLD		nc	nc	nc	nc	nc
ISYS			nc	0.81	0.58	0.74
Immulite				nc	nc	nc
Mediagnost E20					0.75	1.00
Mediagnost R22						1.00
Cisbio						

Suppl Table 3. Concordance (similar classification) for values of IGF-I SDS (IMMULITE) < -1.96

	XLD	ISYS	Immulite	Mediagnost E20	Mediagnost R22	Cisbio
XLD		10/14	14/14	10/13	11/13	9/11
ISYS			10/14	12/13	11/13	10/11
Immulite				10/13	11/13	9/11
Mediagnost E20					12/13	11/11
Mediagnost R22						11/11
Cisbio						

Suppl Table 4. Concordance of the different assays if IGF-I SDS (IMMULITE) is between -1.96 and +1.96 (expressed as kappa values)

	XLD	ISYS	Immulite	Mediagnost E20	Mediagnost R22	Cisbio
XLD		0.10	nc	0.20	-0.04	0.28
ISYS			nc	0.36	0.71	0.57
Immulite				nc	nc	nc
Mediagnost E20					0.49	0.46
Mediagnost R22						-0.04
Cisbio						

Suppl Table 5. Concordance (similar classification) for values of IGF-I SDS (IMMULITE) between -1.96 and 1.96

	XLD	ISYS	Immulite	Mediagnost E20	Mediagnost R22	Cisbio
XLD		23/43	36/43	31/41	21/41	29/39
ISYS			24/44	29/42	36/42	31/40
Immulite				34/42	25/42	30/40
Mediagnost E20					32/39	29/39
Mediagnost R22						21/41
Cisbio						

Suppl Table 6. Concordance of the different assays if IGF-I SDS (IMMULITE) is > -1.96 (expressed as kappa values)

	XLD	ISYS	Immulite	Mediagnost E20	Mediagnost R22	Cisbio
XLD		0.24	nc	nc	nc	nc
ISYS			nc	nc	nc	nc
Immulite				nc	nc	nc
Mediagnost E20					nc	nc
Mediagnost R22						nc
Cisbio						

Suppl Table 7. Concordance (similar classification) for values of IGF-I SDS (IMMULITE) > -1.96

	XLD	ISYS	Immulite	Mediagnost E20	Mediagnost R22	Cisbio
XLD		26/31	25/31	21/24	21/24	15/16
ISYS			30/31	23/24	23/24	16/16
Immulite				24/24	24/24	16/16
Mediagnost E20					24/24	16/16
Mediagnost R22						21/24
Cisbio						