

**Supplementary Table 1: The FISH probes employed in the analysis and the findings.**

Case	Hybridization	Probe	Locus	Band	Probe full name	Labeling	Producer, catalogue no.	Result
1	1	cen 13/21	D13/21Z1	13p10q10 / 21p10q10	Satellite Enumeration Probe for centromeres 13/21	TxR	Cytocell Aquarius, LPE 013R	+
		cen 14/22	D14/22Z1	14p10q10 / 22p10q10	Satellite Enumeration Probe for centromeres 14/22	FITC	Cytocell Aquarius, LPE 014G	-
	2	PWACR	D15S11	15q11.2	Prader-Willi/Angelman Region Probe (D15S11) / CEP 15 (D15Z1)	SpO / SpG	Abbott Molecular Vysis, 05J19-014	-
		wcp 15	chr. 15	15pter-qter	Whole Chromosome probe for chromosome 15	PB415	Kreatech Poseidon, KBI-30015B	-
	3	wcp 13	chr. 13	13pter-qter	XCyting Chromosome Paint for chromosome 13	SpO	MetaSystems, D-0313-050-OR	-
		wcp 21	chr. 21	21pter-qter	Whole Chromosome Painting Probe for chromosome 21	FITC	Cytocell Aquarius, LPP 21G	-
2	1	XIST	XIST	Xq13	XIST specific FISH probe (Xq13/Xcen)	PB495 / PB550	Kreatech Poseidon, KBI-40108	+
	2	SRY	SRY	Yp11.3	SRY Probe	SpO	Abbott Molecular Vysis, 05J27-079	-
		cen Y	DYZ3	Yp10q10	XCyting Centromere Enumeration Probe for chromosome Y	aqua	MetaSystems, D-0824-050-BL	-
3	1	cen 13/21			See Case 1			-
		cen 14/22			See Case 1			-
	2	PWACR			See Case 1			-
		wcp 15			See Case 1			-
	3	cen-mFISH			XCyting Centromere Multi-Color Probe Mix	multi	MetaSystems, D-0127-060-DI	3
4	4	cen 3	D3Z1	3p10q10	Satellite Enumeration Probe for centromere 3	TxR	Cytocell Aquarius, LPE 003R	+
	1	cen 13/21			See Case 1			-
		cen 14/22			See Case 1			-
	2	PWACR			See Case 1			-
		wcp 15			See Case 1			-
	3	cen-mFISH			See Case 3			17
	4	cen 17	D17Z1	17p10q10	XCyting Centromere Enumeration Probe for chromosome 17	FITC	MetaSystems, D-0817-050-FI	+
	5	SMS (RAI1)	D17S447	17p11.2	Smith-Magenis (RAI1)/Miller-Dieker Region	FITC	Cytocell Aquarius, LPU 019	+
		MDS	D17S2027	17p13.3		TxR		-
	6	TOP2A	D17S1238	17q21	TOP2A (17q21) specific DNA Probe	PB550	Kreatech Poseidon, KBI-10724	-

**Labeling:** TxR, Texas Red; FITC, fluorescein isothiocyanate (green); SpO, Spectrum Orange; SpG, Spectrum Green; PB415, Platinum Bright 415 (blue); PB495, Platinum Bright 495 (green); PB550, Platinum Bright 550 (red); aqua, a not specified blue fluorochrome, e.g. DEAC (diethylaminocoumarin); multi, multicolor labeling.

**Results:** +, probe present on the sSMC; -, probe absent on the sSMC; #, chromosome indicated by centromeric mFISH.