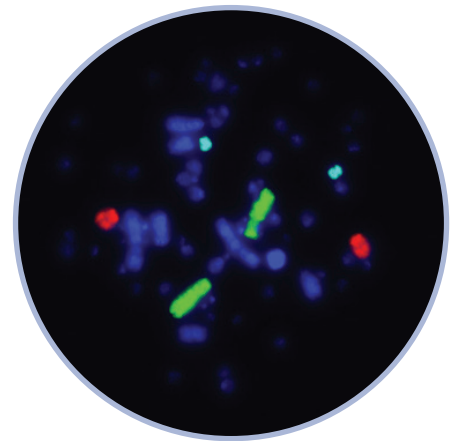
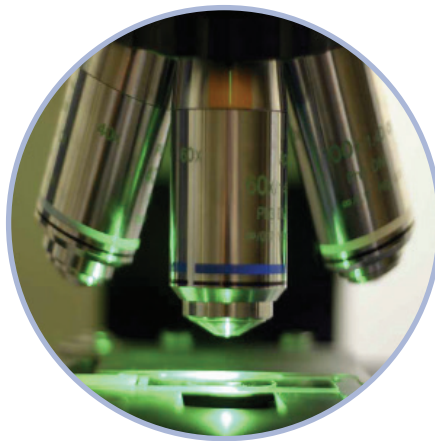


Chromoprobe Multiprobe[®] Chicken

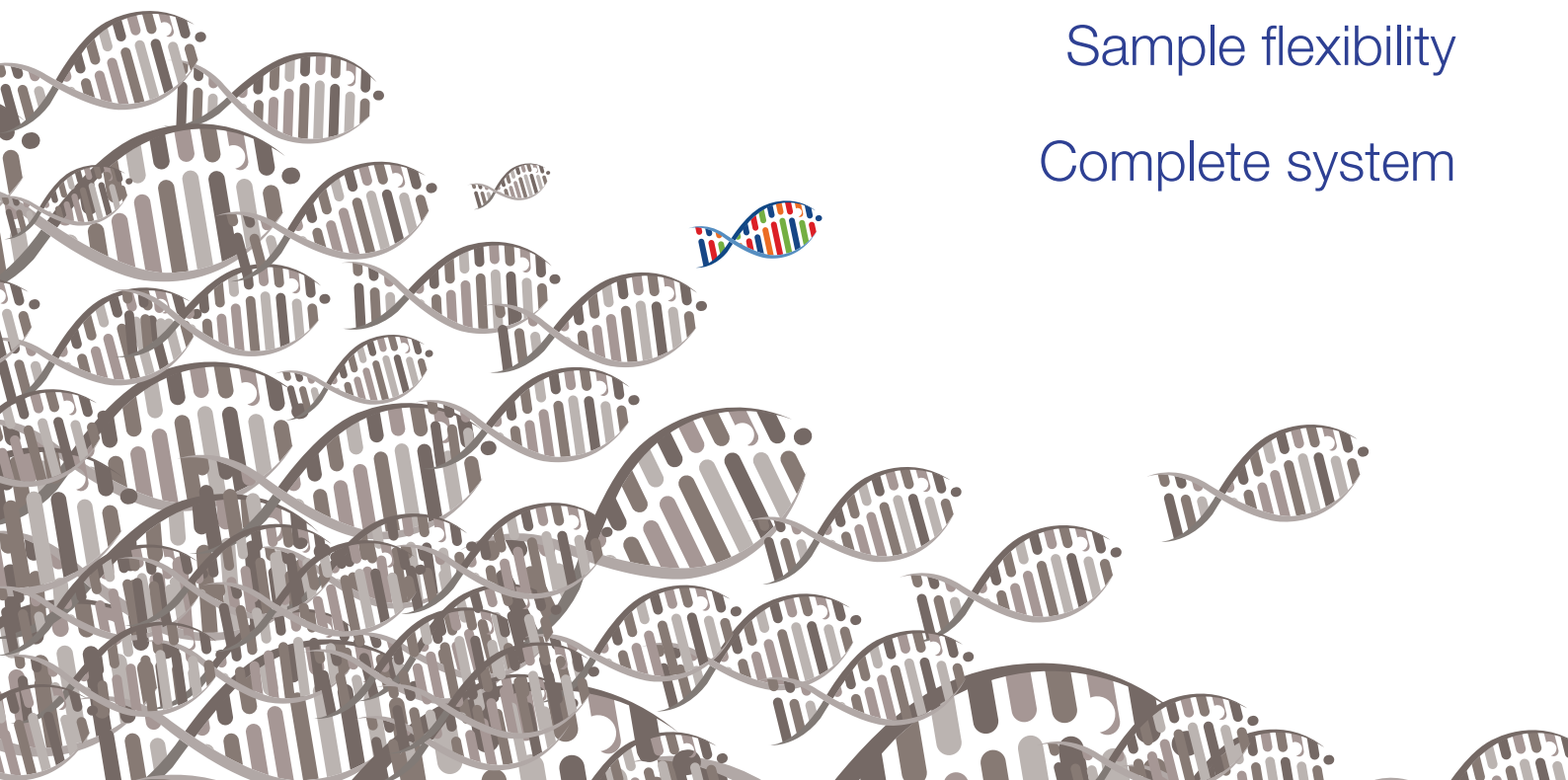


Optimised and simple protocol

Easy to use

Sample flexibility

Complete system



Chromoprobe Multiprobe Chicken

The chicken genome consists of a large number of microchromosomes; therefore, analysis of the chicken genome by classical cytogenetics is extremely complex. The CytoCell Chromoprobe Multiprobe Chicken is designed to identify complex chromosome rearrangements present in the chicken karyotype* (1-28, Z and W). The system utilises directly-labelled whole chromosome painting (WCP) probes and locus-specific subtelomere BAC probes that allow the visualisation of chromosomal rearrangements under the fluorescent microscope without expert knowledge of the chicken karyotype.

* The chicken karyotype consists of 38 autosomal chromosomes plus Z and W sex chromosomes, for which 28 pairs of autosomal chromosomes and Z and W have been sequenced. CytoCell's Chicken Multiprobe system contains probes for chromosomes that have sequencing data available.

The Chromoprobe Multiprobe Chicken delivers:

- **Optimised and simple protocol** — A simple FISH hybridisation without pepsin, RNase treatment or paraformamide fixation and wash procedure, allows simultaneous analysis of chicken chromosomes 1-28, Z and W one slide
- **Easy to use** — Template slides with marked areas corresponding to squares of the Multiprobe device; allow cell cultures to optimally contact the probes during hybridisation for high quality results
- **Sample flexibility** — The Chromoprobe Multiprobe Chicken is developed to work with metaphase and interphase cultures prepared in standard 3:1 methanol, acetic acid fixative. It has been shown to work with metaphase cultures of other avian species (Galliforms) therefore suggesting the device may be useful in comparative genomic studies^{1,2}
- **Complete system** — The Chromoprobe Multiprobe Chicken includes all ancillary reagents (i.e DAPI and hybridisation mix) for straightforward processing

	10pq	11pq	12pq	13pq	14pq	15pq	16pq	17pq
	1,4,3	18pq	2,5,8	19pq	6,7,9	20pq	Z,W	21pq
	22pq	23pq	24pq	25pq	26pq	27pq	28pq	

Figure 1: The Chromoprobe Multiprobe Chicken device layout. Each square of the devices carries either chicken chromosome paints for three different chromosomes (macro) labelled in red, green and aqua (Texas Red®, FITC and aqua spectra, respectively); or subtelomeric BAC probes labelled in red and green fluorochromes (Texas Red, FITC). The probes are reversibly dried on to the first 23 squares of the device using a proprietary process. FISH signals are visible with a DAPI/FITC/Texas Red® triple filter or individually through specific single fluorescence filters.

"We utilised a customised Chromoprobe Multiprobe Chicken to map the chromosomal locations of viral integration sites. The customisation process was simple and allowed us to tailor the product to suit our precise requirements."

Professor Venugopal Nair, Pirbright Institute, UK

CytoCell ZooFISH myProbes

- The Chromoprobe Multiprobe Chicken can be customised according to requirements

References

1. Lithgow, P.E. *et al* (2014) Novel tools for characterising inter and intra chromosomal rearrangements in avian microchromosomes. *Chromosome Res.*
2. Romanov, M.N. *et al* (2014) Reconstruction of gross avian genome structure, organization and evolution suggests that the chicken lineage most closely resembles the dinosaur avian ancestor. *BMC Genomics.*

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