Isolation and analysis of chick homeobox cDNA clones

Paul J. Scotting*, Maria Hewitt and Roger J. Keynes
Department of Biochemistry, University of Nottingham, Queen's Medical Centre, Clifton Boulevard, Nottingham NG7 2UH and Department of Anatomy, University of Cambridge, Downing Street, Cambridge CB2 3DY, UK

Submitted May 29, 1990

Homeobox-containing clones were isolated from a Lambda-ZAP cDNA library derived from somites of 2.5 day old chick embryos. The clones were identified by hybridization to the homeobox-containing Xenopus gene Xhoxl-A (1). Fourteen clones isolated from a screen of 3.3 x 10⁵ plaques of an amplified library contain homeobox sequences and some are highly conserved homologues of murine Hox genes.

Sequence analysis of these clones has shown three to be highly homologous, within their homeodomains, to the murine genes A. Hoxl.4 (2), B. Hox 2.4 (3) and C. Hox2.7 (Robb Krumlauf, personal communication), and we have named them accordingly A. Choxl.4, B. Chox2.4 and C. Chox2.7 (Fig. 1, homeoboxes boxed and conserved hexapeptide motif underlined). Comparison with the sequences of chick homeobox clones so far isolated by others show that Chox2.4 and Chox2.7 described here are new chick isolates while Choxl.4 has also been isolated recently by Sasaki et al. (4).

ACKNOWLEDGEMENTS
Support was from the MRC (G8507030CB) and Wellcome Trust. Thanks to Richard Harvey for the Xhoxl-A clone.

REFERENCES

* To whom correspondence should be addressed