LETTER TO THE EDITOR

Adult Keratinocyte Secretion of Type IV Collagen

To the Editor:
As I was reading the article and looking at the photographs by Oguchi et al entitled "Secretion of Type IV Collagen by Keratinocytes of Human Adult" (J Invest Dermatol 85:79–81, 1985), I said to myself, "I've seen that before," and, indeed, I had. I pulled out a reprint by Flaxman, Lutzner, and Van Scott entitled "Ultrastructure of Cell Attachment to Substratum In Vitro (J Cell Biol 36:406–410, 1968), in which we grew human keratinocytes on nitrocellulose films and examined the attachment zone ultramicroscopically. We showed hemidesmosomes where the keratinocytes attach to an underlying extracellular substratum. The latter consists of a fine electron-dense material in a zone 45 nm (450 Å) thick just below the cells and a thin electron-dense line 5 nm (50 Å) inferior to this wider zone. Our photographs appear identical to Fig 1A,B by Oguchi et al (allowing for differences in reproduction techniques). We even speculated that this material might represent basal lamina formation by the keratinocyte. At the time, however, we did not have the means to verify this. Fibroblasts were also attached to the substratum by similar structures. The purpose of this letter is not to detract from the work of Oguchi et al, which attempts to identify the nature of this extracellular material. I do feel, however, that reference should be made to earlier work in the field. Perhaps a more thorough literature search should have been performed.

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REPLY

The authors appreciate Dr. Flaxman's comment. They were well acquainted with his paper as a pioneer study in this field. However, since the aim of our study was to demonstrate whether or not human keratinocytes secrete type IV collagen on type I collagen film, the references were selected within the limits of basal lamina formation on collagen both in vivo and in vitro. Fig 1A, B was used for orientation to show how the junction was seen in keratinocyte culture after routine contrasting. Type IV collagen appeared first on the keratinocyte surface and, later on, in the space under the keratinocyte growth which Dr. Flaxman described as a 45-nm-wide zone. We believe his 5-nm-thick dense line has nothing to do with basal lamina formation. In the authors' experience, the line covered the full plastic surface of the Falcon flask.

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