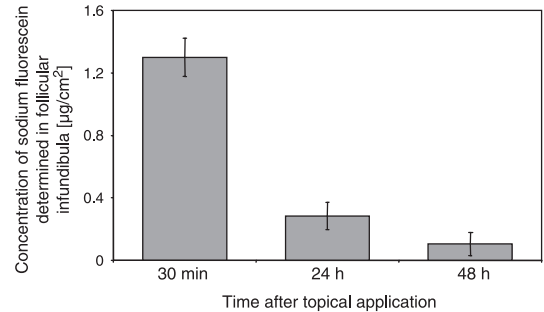




Watching Follicular Penetration

Determining the penetration pathways of topically applied substances into skin is of perennial interest. Teichmann and coworkers initially used tape stripping to remove part of the stratum corneum, and then a cyanoacrylate skin surface biopsy was done to remove the follicular contents. The combined method, called “differential stripping,” was evaluated *in vitro* and *in vivo*, and the amount of topically applied fluorescent dye that penetrated into hair follicles was measured at different times. This two-step method allows scientists to quantify the penetration of direct, non-invasive amounts of topically applied substances into follicles. *J Invest Dermatol* 125:264–269, 2005.

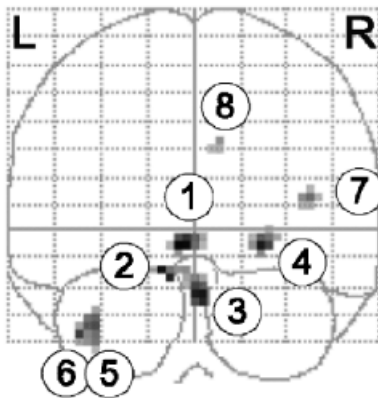


BRAF and NRAS Mutations in Melanoma

In cutaneous human melanoma, *BRAF* or *NRAS* genes show frequent mutations. Akslen and colleagues examined 51 primary nodular melanomas and 18 paired metastases. *BRAF* mutations existed in 15 primary tumors (29%) and eight metastases (44%); *NRAS* mutations existed in 27% and 22%, respectively. The mutations were not associated with tumor cell proliferation, tumor thickness, microvessel density, or vascular invasion, and there were no differences in patient survival. The authors concluded that *BRAF* and *NRAS* mutations are likely to be important for the initiation and maintenance of some melanomas, but in aggressive melanoma, other factors might be more significant for proliferation and prognosis in subgroups. *J Invest Dermatol* 125:312–317, 2005.

Prenatal Diagnosis Comes of Age in EB

Epidermolysis bullosa simplex (EBS) is a disorder characterized by blistering as a result of trauma to the skin. Uitto and colleagues analyzed a cohort of 57 patients with EBS; among them, 18 harbored heterozygous mutations in the keratin 5 or 14 genes, and 14 cases were associated with mutations in both alleles of the plectin gene. In most keratin mutation cases, there was no family history of a blistering disease. Prenatal diagnosis of 8 pregnancies within the keratin gene mutations predicted two fetuses affected. The data suggest that a significant number of cases of EBS are due to plectin mutations, and that many cases result from de novo mutations in *KRT5* and *KRT14*. These findings have implications for genetic counseling and prenatal diagnosis of EBS. *J Invest Dermatol* 125:239–243, 2005.



Scratching the Brain

The reactivity of the brain to tonic itch sensations is more difficult to assess by fMRI than that of pain sensations. The forebrain regions activated by a brief itch (3–4 minutes) are different from those activated by pain, and the motivational and behavioral consequences of itch and pain also differ substantially. Gieler and colleagues examined 8 subjects' brain activations in 8 areas of the brain after a histamine or saline prick to the left forearm or leg. The “pain matrix” and “itch matrix” comprise very different regions and brain processes. Studies with larger samples are needed to further scratch this investigative itch. *J Invest Dermatol* 125:380–382, 2005.