PublisherInfo		
PublisherName	:	BioMed Central
PublisherLocation	:	London
PublisherImprintName	:	BioMed Central

Bitter taste

ArticleInfo		
ArticleID	:	4613
ArticleDOI	:	10.1186/gb-spotlight-20021017-02
ArticleCitationID	:	spotlight-20021017-02
ArticleSequenceNumber	:	279
ArticleCategory	:	Research news
ArticleFirstPage	:	1
ArticleLastPage	:	2
ArticleHistory	:	RegistrationDate : 2002–10–17 OnlineDate : 2002–10–17
ArticleCopyright	:	BioMed Central Ltd2002
ArticleGrants	:	
ArticleContext	:	130593311

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The ability to detect bitter tastes is thought to help us to avoid eating toxic substances. In an Advanced Online Publication in Nature Genetics, Bufe *et al.* describe the characterization of a human bitter-taste receptor (*Nature Genetics,* 15 October 2002, doi:10.1038/ng1014). They mined human genome sequence information and found 24 intronless genes encoding potential TAS2R taste receptors; they expressed each of these in tissue culture cells and recorded calcium transients using a fluorescence imaging plate reader. This led to the identification of one receptor, TAS2R16, that recognized the bitter tastes of beta-glycopyranoside phytonutrients such as salicin, an extract from willow bark that is used as an analgesic. TAS2R16 is expressed in human taste buds of the villate papillae, and Bufe *et al.* found evidence for receptor desensitization upon repeated exposure and adaptation. Compounds recognised by TAS2R16 have a common chemical structure, which might explain the breadth of taste perception. These results offer a taste of things to come, as researchers explore the function of the other TAS2R receptors in the human genome.

References

1. Receptors for bitter and sweet taste.

2. *Nature Genetics*, [http://www.nature.com/ng]