

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

## Cloning big sheep

ArticleInfo		
ArticleID	:	3986
ArticleDOI	:	10.1186/gb-spotlight-20010221-02
ArticleCitationID	:	spotlight-20010221-02
ArticleSequenceNumber	:	57
ArticleCategory	:	Research news
ArticleFirstPage	:	1
ArticleLastPage	:	2
ArticleHistory	:	RegistrationDate : 2001-02-21 OnlineDate : 2001-02-21
ArticleCopyright	:	BioMed Central Ltd2001
ArticleGrants	:	
ArticleContext	:	130592211

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Cloning and *in vitro* culture of sheep embryos have been associated with bigger livestock and 'large offspring syndrome' (LOS). In the February *Nature Genetics* Young *et al.* provide a molecular explanation for the observed fetal overgrowth (*Nat Genet* 2001, **27**:153-154). They developed a culture system that consistently results in large offspring (LO) in 25% of births. Young *et al.* measured the levels of several imprinted genes that are associated with fetal overgrowth syndromes in man. The levels of *IGFR2* mRNA were reduced by 30-60% in LO embryos and protein levels were diminished by as much as 60-80%. Reduced *IGF2R* expression was associated with loss of methylation of the differentially methylated region from the second intron of the ovine *IGF2R* gene. These results suggest an epigenetic mechanism for the LOS overgrowth phenotype.

## References

1. Large offspring syndrome in cattle and sheep.
2. *Nature Genetics*, [<http://genetics.nature.com>]
3. Loss of the imprinted IGF2/cation-independent mannose 6-phosphate receptor results in fetal overgrowth and perinatal lethality.