



EUROPEAN COMMISSION
JOINT RESEARCH CENTRE

Institute for Health and Consumer Protection
European Centre for the Validation of Alternative Methods

ESAC statement on the use of FCS and other animal-derived supplements

At its 28th meeting, held on 7-8 May 2008 at the European Centre for the Validation of Alternative Methods (ECVAM), Ispra, Italy, the Non-Commission members of the ECVAM Scientific Advisory Committee (ESAC) unanimously endorsed the following statement:

The ESAC members recommend to use non-animal serum substitutes of fetal calf serum (FCS) and other animal derived supplements, whenever possible. For new *in vitro* culture test methods to be developed the ESAC strongly suggests the use of non animal alternatives to FCS.

For methods forwarded to ECVAM for validation/prevalidation where this is not fulfilled a justification for future use must be provided, including measures taken to seek non animal alternatives to FCS.

Background:

Cultivation of cells *in vitro* traditionally included supplements of animal/human components necessary for nutrition, growth and protection. As outlined by Falkner et al, 2006 and van der Valk et al, 2004, the beneficial effects of animal/human serum supplementation are limited by lack of reproducible contents in these sera, risk of contamination and variation in batches combined with high price. Furthermore the collection of fetal sera impose harm to the fetus and the ethical concerns have been raised by eg van der Valk et al 2004. These supplements have been marketed and served as first choice in many academic situations trying cell culturing, though the favor of use of specified synthetic supplements satisfies reproducibility and animal welfare ethics.

References and further reading:

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van der Valk J., Mellor D., Brands R., Fischer R., Gruber F., Gstraunthaler G., Hellebrekers L., Hyllner J., Jonker F.H., Prieto P., Thalen M. and Baumans V. The humane collection of fetal bovine serum and possibilities for serum-free cell and tissue culture. *Toxicol. In Vitro* 18, 1-12, 2004,

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The ESAC was established by the European Commission, and is composed of nominees from the EU Members States, industry, academia and animal welfare, together with representatives of the relevant Commission services.

This statement was endorsed by the following members of the ESAC:

Mr Walter Pfaller (Austria)
Ms Dagmar Jírová (Czech Republic)
Ms Elisabeth Knudsen (Denmark)
Mr Tõnu Püssa (Estonia)
Mr Timo Ylikomi (Finland)
Mr Manfred Liebsch (Germany)
Mr Efstathios Nikolaidis (Greece)
Ms Katalin Horvath (Hungary)
Ms Annalaura Stamatì (Italy)
Ms Maija Dambrova (Latvia)
Mr Mykolas Maurica (Lithuania)
Mr Jan van der Valk (The Netherlands)
Mr Constantin Mircioiu (Romania)
Ms Argelia Castaño (Spain)
Mr Patric Amcoff (Sweden)
Mr Carl Westmoreland (COLIPA)
Ms Vera Rogiers (ECOPA)
Mr Gianni Dal Negro (EFPIA)
Mr Hasso Seibert (ESF)
Ms Maggy Jennings (Eurogroup for Animals)
Mr Roman Kolar (Eurogroup for Animals)

The following Commission Services and Observer Organisations were involved in the consultation process, but not in the endorsement process itself:

Ms Elke Anklam (IHCP; ECVAM acting head of unit)
Mr Jens Linge (ECVAM; secretary)
Ms Susanne Bremer (ECVAM)
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