Gold nanomedicine clinical trial delivers promising results

Novel approach in cancer therapy at the forefront of gold-based medical applications

The World Gold Council (WGC) is delighted with the successful phase 1 clinical trial of a unique nanomedicine that uses nanoparticles of gold as the core of a delivery system for tumour targeted drug delivery. The research, published in the current edition of Clinical Cancer Research, was carried out by US-based life sciences company CytImmune Sciences Inc.

CytImmune’s technology is at the forefront of a raft of gold-based innovations as described earlier this year by the WGC in a paper entitled ‘Gold for Good: Gold and nanotechnology in the age of innovation’. The report demonstrates how gold nanoparticles exhibit a variety of unique properties which are showing great potential in a range of fields.

Dr Richard Holliday, Director, Technology at the WGC said: “Gold has a long history in the biomedical field, being the material of choice in many diagnostic platforms and a key constituent for rheumatoid arthritis treatment. The dawn of the ‘nano-age’ has further broadened the potential of gold in biomedical applications and it is exciting to see the outcome of this clinical trial which suggests that gold can act as an effective and safe drug delivery system.”

In medicine, gold nanoparticles can serve as a simple, elegant platform upon which potent therapies may be bound. In this clinical trial the nanoparticles, which were coated with both an immune-avoiding molecule and a potent anti-cancer agent, were shown to be very well tolerated and to target solid tumours. There is hope that such targeting technology will be effective against a range of cancers, including lung, pancreatic, breast and ovarian cancer.

Dr Lawrence Tamarkin, CEO of CytImmune Sciences Inc. said: “This phase 1 clinical study potentially marks the beginning of a new strategy in cancer treatment where gold nanoparticle-based cancer therapeutics are used first, before surgery, to reduce tumour burden. Reducing tumour size may require less sophisticated surgeries to remove any residual tumour, leading to shorter hospital stays and to improved patient outcomes. Phase 2 clinical studies will prove the value of this novel drug delivery platform.”
Dr Holliday continued: “By continuously reviewing and monitoring the global research landscape in gold science and technology, we are able to identify and, where appropriate, help accelerate the time to market key, new technologies that have social, environmental or medical benefits.”

ENDS

Links:

http://www.gold.org/download/rs_archive/gold_and_nanotechnology_in_the_age_of_innovation.pdf (Gold for Good white paper)

http://www.cytimmune.com/ (Cytimmune website)

http://clincancerres.aacrjournals.org/content/16/24/6139.abstract (Link to paper abstract)

For further information please contact:

Stephanie Mackrell  
World Gold Council  
T: +44 (0) 207 826 4763  
E: Stephanie.mackrell@gold.org

Quintin Keanie  
Capital MSL  
T: +44 (0) 207 255 5514  
E: Quintin.keanie@capitalmsl.com

Note to editors:

World Gold Council  
The World Gold Council (WGC) is the market development organisation for the gold industry. Working within the investment, jewellery and technology sectors, as well as engaging in government affairs, its purpose is to provide industry leadership, whilst stimulating and sustaining demand for gold.

The WGC researches and gives insight on the international gold markets, helping people to better understand the wealth preservation qualities of gold and its role in meeting the social and environmental needs of society.

Based in the UK, with operations in India, the Far East, the Middle East, Europe and the USA, the WGC is an association whose members include the world's leading gold mining companies. For further information visit www.gold.org.