



### CoHex: BROAD SPECTRUM ANTI-VIRAL COMPOUND

#### Advantages/Features

Cobalt-hexamine is stable, inexpensive, easy to manufacture, and commercially available

Useful when no alternative therapy is available, such as with Ebola, or against rapidly mutating viruses

Increased efficacy when combined with existing anti-viral drugs reduces cost and may reduce the probability of drug resistance

Much less toxic than other approved agents such as cis-Platin.

#### Applications

Clinical: very broad spectrum anti-viral agent for both prophylactic and therapeutic use

First Responder: counter biowarfare therapeutic against unidentified threat agents.

#### For more information contact:

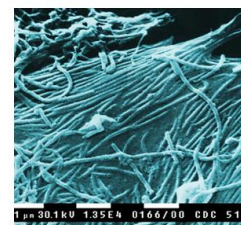
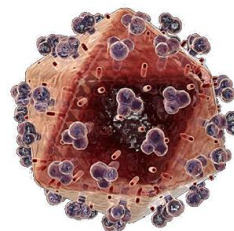
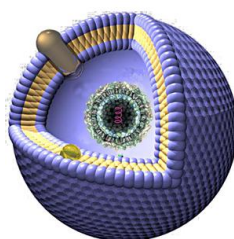
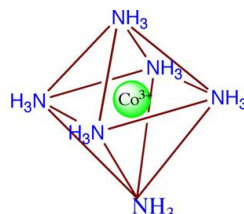
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#### Identification Number:

BIO04



*Cohex has shown antiviral activities against a broad-spectrum of viruses including a. Sindbis Virus (shown in an endosomal vesicle), b. HIV virus\*, c. Ebola Virus (SEM\*\*). \*HIV: 3DScience.com; \*\*Ebola: www.cdc.gov/nczved/*

The Naval Research Laboratory (NRL) is developing a hexamminecobalt(III) (CoHex) based anti-viral compound for both clinical and first responder use. Initial results with a variety of viruses ( $\pm$ ssRNA, -dsRNA, dsDNA, enveloped, non-enveloped) indicate that this compound is a very broad spectrum anti-viral agent. Cohex is a small, stable, water-soluble, and inexpensive compound that can potentially be used as a therapeutic when there is no known drug therapy available, such as the case with H1N1 or an Ebola outbreak. It can also be used with existing anti-viral drugs to provide an additive effect, which can reduce cost, as can be the case of HIV treatment, where less of a more expensive drug, such as AZT, is advantageous. CoHex can also be used with current drugs against drug resistant strains, and may reduce the probability of drug resistance development. Initial small animal testing also shows that CoHex has a much lower cytotoxicity than FDA approved cis-Platin making it a good source as a therapeutic agent.

#### References

Delehanty, J. B.; Bongard, J. E.; Thach, D. C.; Knight, D. A.; Hickey, T. E.; Chang, E. L. *Bioorganic & Medicinal Chemistry* 2008, 16, 830-837 and references therein.

**Available for License: US Patent Pub. Nos. 2006-0094045, 2008-0182835, 2008-0319181, and 2011-0027388.**

