

## Procainamide (706): sc-57986

### BACKGROUND

Procainamide is a class IA drug used for the clinical treatment of cardiac arrhythmias. It functions by blocking open sodium channels, thereby prolonging the cardiac action potential. This leads to a slowed conduction, and ultimately a decreased rate of rise of the action potential, which may result in widening of QRS on electrocardiogram. The active metabolite in this drug is N-acetyl Procainamide, which is excreted by the kidneys and the renal system. Procainamide may be administered intravenously or orally and can be used for both supraventricular and ventricular arrhythmias. Problematic side effects of Procainamide include rash, myalgia and hypersensitivity reactions. In some cases, Procainamide may cause an antibody production against cellular components, which can lead to systemic lupus erythematosus-like reactions.

### REFERENCES

1. Dutcher, J.S., Strong, J.M., Lucas, S.V., Lee, W.K. and Atkinson, A.J. 1977. Procainamide and N-acetylprocainamide kinetics investigated simultaneously with stable isotope methodology. *Clin. Pharmacol. Ther.* 22: 447-457.
2. Olshansky, B., Martins, J. and Hunt, S. 1983. N-acetyl Procainamide causing torsades de pointes. *Am. J. Cardiol.* 50: 1439-1441.
3. Giardina, E.G. 1985. Procainamide: clinical pharmacology and efficacy against ventricular arrhythmias. *Ann. N.Y. Acad. Sci.* 432: 177-188.
4. Funck-Brentano, C., Light, R.T., Lineberry, M.D., Wright, G.M., Roden, D.M. and Woosley, R.L. 1989. Pharmacokinetic and pharmacodynamic interaction of N-acetyl Procainamide and Procainamide in humans. *J. Cardiovasc. Pharmacol.* 14: 364-373.
5. Marchlinski, F.E., Buxton, A.E., Josephson, M.E. and Schmitt, C. 1989. Predicting ventricular tachycardia cycle length after Procainamide by assessing cycle length-dependent changes in paced QRS duration. *Circulation* 79: 39-46.
6. Kim, S.Y. and Benowitz, N.L. 1991. Poisoning due to class IA antiarrhythmic drugs. Quinidine, Procainamide and disopyramide. *Drug Saf.* 5: 393-420.
7. Takano, M., Kato, M., Takayama, A., Yasuhara, M., Inui, K. and Hori, R. 1992. Transport of Procainamide in a kidney epithelial cell line LLC-PK1. *Biochim. Biophys. Acta* 1108: 133-139.
8. Ellenbogen, K.A., Wood, M.A. and Stambler, B.S. 1994. Procainamide: a perspective on its value and danger. *Heart Dis. Stroke* 2: 473-476.
9. Zamponi, G.W., Sui, X., Coddling, P.W. and French, R.J. 1994. Dual actions of Procainamide on batrachotoxin-activated sodium channels: open channel block and prevention of inactivation. *Biophys. J.* 65: 2324-2334.

### SOURCE

Procainamide (706) is a mouse monoclonal antibody raised against Procainamide.

### STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

### PRODUCT

Each vial contains 100 µg IgG<sub>2a</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

### APPLICATIONS

Procainamide (706) is recommended for detection of Procainamide by solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

### RESEARCH USE

For research use only, not for use in diagnostic procedures.

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.