OXY-17® FORMULATIONS

**Oxy-17® Fusion**: a patented formula delivering Oxy-17® Gas to target tissue intravenously in the form of a proprietary perfluorocarbon emulsion.

**Oxy-17® Gas**: an enriched form of the naturally available Oxygen-17 gas.

OXY-17® AVAILABILITY

**Oxy-17® Gas** is approved for human use in the United States and European Union, and has been commercially available for more than 20 years. Oxy-17® Gas is sold in 5L, 10L and larger volumes.

**Oxy-17® Fusion** is in regulatory marketing approval studies for human use in Germany (EU) and the United States. However, it is available in a 50mL vial for research use in animal models and approved investigator studies. Smaller volume prefilled syringes are in development.

ABOUT ROCKLAND TECHNIMED LTD.

Oxy-17® is a patented technology developed by Rockland Technimed Ltd. (RTL), pioneers in real-time metabolic magnetic resonance imaging. Oxy-17® Fusion, RTL’s lead preclinical candidate, is the first, ready-to-use intravenous formulation of Oxygen-17 and will be commercialized by RTL and Nukem Isotopes GmbH, a global leader in providing isotopes in form of ultra-pure substances.

REFERENCES/CREDITS


**Oxy-17®**: Versatile Metabolic MRI Medium with Vast Clinical Potential

Oxy-17® MRI can enable physicians to rapidly assess tissue viability, extend the treatment window and make better informed treatment decisions. Unlike gadolinium or iron oxide-based MRI contrast agents, Oxy-17® can cross an intact blood brain barrier to image normal and ischemic cerebral oxygen metabolism (CMRO2). In addition, an Oxy-17® MRI can measure myocardial oxygen metabolism (MRO2).

**Tissue Viability Assessment with Oxy-17®**

Different levels of cell injury have corresponding rates of oxygen uptake from the blood (oxygen extraction fraction, OEF) in order to maintain viable levels of oxygen respiratory metabolism. Oxygen-starved ischemic or hypoxic tissue extracts a larger percentage of oxygen than normal tissue while nonviable (necrotic) tissue does not take up any 15O gas and hence does not produce detectable water (H215O). Conventional MRI used with Oxy-17® can distinguish hypoxic but viable regions from those in which cell death has occurred due to necrosis and apoptosis.

Oxy-17® is the only non-radioactive imaging medium that can visualize this point in the evolution of ischemia.

**Cerebral & Cardiac Ischemia**

More than 38% contrast observed after a bolus venous injection of the Oxy-17® Fusion versus normal control image.

**Epilepsy**

An Oxy-17® MRI can pinpoint the seizure focus based on reduced intercellular oxygen metabolism, enabling physicians to plan surgical resection more accurately.

**Drug Discovery**

Oxy-17® can be used as a consistent noninvasive biomarker for an investigative compound’s mechanism of action at the cellular level and provide a surrogate end point for clinical trials starting from drug discovery through clinical use. Oxy-17® can also serve as a companion diagnostic to personalize treatment by more specifically targeting treatable tissue.

**Oncology**

Molecular oxygen levels in neoplastic (cancerous) tissues fluctuate based on the tumor grade and level of oxidative vs. anaerobic metabolism. An Oxy-17® MRI can safely track oxygen metabolism changes in tumor tissue before and throughout the course of treatment without exposing the patient to additional radiation.