**BIOLICAL CHARACTERIZATION OF FELINE INTERFERON-NU: A NEW MEMBER OF THE TYPE I INTERFERON FAMILY**

**Abstract:**
Type I interferons are a family of related proteins, including interleukin (IL)-10, IL-1, IFN-α, and IFN-β, that play a key role in the immune response to viral infections. These proteins are produced following viral infection and are involved in the antiviral response. The study presented here describes the characterization of a new interferon, denoted IFN-ν, which was identified in feline lung AK-D cells transfected with IFN-ν. Using the antiviral activity of IFN-ν was established using Vesicular Stomatitis Virus (VSV) challenge of feline lung AK-D cells. The antiviral activity of IFN-ν yielded antiviral activity when expressed in feline cells providing the first biological evidence that interferon-stimulated gene (ISRE) and viral response element (VRE) exhibit the proper hallmark bioactivity.

**Materials and Methods:**
- **Polymerase chain reaction** (PCR) was performed using gene-specific primers described in Materials and Methods. The PCR products were cloned into pCR4-TOPO and sequenced.
- **Sequence analysis** was performed using Clustal Omega and MUSCLE. Phylogenetic analysis was performed using the Neighbour-Joining method.
- **Cytopathic effect** was performed by seeding AK-D cells at a density of 2 x 10^4/ml. The antiviral activity of IFN-ν was determined by Cytopathic Effect Assay (CPE) as described in Materials and Methods.

**Interferon-ν PRIMER/PROBE qPCR AMPLIFICATION STANDARD CURVE**
The standard curve of amplification data was performed using primers for IFN-ν and Vsv. The correlation coefficient (R^2) was calculated for each experiment.

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**INTERFERON SIGNALING PATHWAYS**
Interferons are produced following viral infection and are involved in the antiviral response. These proteins are produced following viral infection and are involved in the antiviral response. The study presented here describes the characterization of a new interferon, denoted IFN-ν, which was identified in feline lung AK-D cells transfected with IFN-ν. Using the antiviral activity of IFN-ν was established using Vesicular Stomatitis Virus (VSV) challenge of feline lung AK-D cells. The antiviral activity of IFN-ν yielded antiviral activity when expressed in feline cells providing the first biological evidence that interferon-stimulated gene (ISRE) and viral response element (VRE) exhibit the proper hallmark bioactivity.