Background: What are CARM1 and CBP?

- Co-activator Associated Arginine Methyltransferase 1 (CARM1) and Protein Arginine Methyltransferase 4 (PRMT4)
- CREB Binding Protein (CBP), long protein encoded in the CREBBP gene
- Similar to the P300 protein, both are co-activators necessary for activation of transcription and is associated with hundreds of proteins

Methods:

**Methods:**

- **Cell Culture:**
  - Diffuse Large B-Cell Lymphoma (DLBCL)
  - Osteosarcoma cell lines
  - Standard cell culture procedure was done for U2OS, osteosarcoma cell lines.
  - Cultured cells regularly in a 10mm dish every three days at 70% confluency, 37°C

- **Site-Directed Mutagenesis:**
  - Our point mutation is focused on the IBiD domain of CBP by CARM1
  - Here we are investigating the function of arginine methylation at two sites in the CBP-IBiD domain of CBP by CARM1

- **Co-IP Western Blot:**
  - Ran 1% agarose gel which separates backbone from insert (figure 6)
  - Cut gel using UV tray, ran gel, cut out SFFV backbone and IBiD and KIX inserts.

- **Results:**
  - CARM1 found to methylate mutated residues at two sites in the CBP-IBiD domain
  - Leads to more knowledge about the consequences of frequent mutations in DLBCLs

- **Conclusion:**
  - CARM1 found to methylate mutated residues at two sites in the CBP-IBiD domain
  - Leads to more knowledge about the consequences of frequent mutations in DLBCLs

Results:

- **Cloning for Lentiviral Plasmid:**
  - **SFFV:** 29.936 ng/ul purity: 1.32
  - **IBiD:** 11.119 ng/ul purity: 0.78

- **Results:**
  - Overexpression of CARM1 in DLBCLs
  - Knockdown of CARM1 expression
  - Effects on cell proliferation and survival

References: